

FLIGHT

The
AIRCRAFT ENGINEER
AND AIRSHIPS

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Founder and Editor: STANLEY SPOONER

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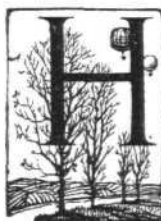
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EDITORIAL COMMENT



R.H. the Prince of Wales has been promoted in all three fighting services. Hitherto he has been Captain, Colonel, and Group Captain. In each service he has jumped over two ranks and now becomes Vice Admiral, Lieutenant General, and Air Marshal. The Royal Air Force is complimented and honoured by this promotion, which, considering the Prince's position, is not unduly rapid. There are now only five officers in the R.A.F. who are senior to the Prince, namely, one Marshal of the Royal Air Force, one Air Chief Marshal, and three Air Marshals; and of these Sir John Higgins is now retiring. We may express the hope that the new Air Marshal will soon qualify to wear "wings" on his uniform, a distinction which was won in 1919 by his younger brother the Duke of York. At present the King is the only officer who wears the brevet without actually having learnt to fly an aeroplane.

The very tragic accident to a Junkers aeroplane at Meopham on July 21, in which Lord Dufferin and five others lost their lives, has had a sequel in a sort of outcry against the Air Ministry. The gravamen of the charge appears to be that the Ministry will not permit Counsel to attend the meetings of the sub-committee of the Aeronautical Research Committee, which is to undertake the technical enquiry into the cause of the accident. At the inquest, Counsel for the relatives of Lord Dufferin said that he preferred to leave the technical enquiry to the Air Ministry, but Counsel for the representatives of two others of the victims desired to ask some questions as to how the accident occurred. Major Cooper, the Air Ministry Inspector of Accidents, said to him (according to the *Times* report), "I think there is no question about your having an opportunity of putting questions, advancing theories, or obtaining any information you require at the meetings of the

The Air Ministry and Accidents

DIARY OF CURRENT AND FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list—

1930

- Sept. 1-6 .. 5th International Air Congress at The Hague.
- Sept. 6 .. Opening of Ratcliffe Aerodrome, Leicester.
- Sept. 6 .. Bristol and Wessex Ae.C. Air Display and Garden Party.
- Sept. 6-7 .. Canadian Air Meet, Montreal.
- Sept. 9-15 .. Demonstrations of Night Flying by Airwork, Ltd., Heston.
- Sept. 13 .. N.F.S. Air Pageant, Tollerton, Nottingham.
- Sept. 13-15 .. Antwerp International Aviation Meeting.
- Sept. 14 .. N.F.S. Air Pageant, Leeds.
- Sept. 15-20 .. Flying Week at Llandudno.
- Sept. 17 .. Institute of Patent Agents and Mrs. Griffith Brewer's Garden Party at Hanworth.
- Sept. 17-21 .. Belgian Light Aeroplane Competition.
- Sept. 27 .. N.F.S. Air Meeting, Hanworth.
- Nov. 28- Dec. 14 .. Paris Aero Show.

1932

- May 31 .. Closing date for Ceffon Cross-Channel Glide £1,000 Prize.

(Aeronautical Research) Committee." The Air Ministry has not, however, confirmed the expectation seemingly held out by Major Cooper, but has promised that when the report of the Aeronautical Research Committee has been received a copy will be sent to the solicitors of the parties in question.

It appears to us that this attitude of the Air Ministry is reasonable, and that more could not justly be asked from it. The most important interest of the public is that the actual cause of the accident should be clearly ascertained, if that is possible, and that appropriate steps should be taken to prevent a recurrence of such accidents. The committee of experts will do their work best if left to make their investigation by themselves. It would certainly not help them in their efforts to arrive at a correct technical conclusion, to have among them a clever cross-examiner, possibly ignorant of aeronautics, and asking their reasons for every theory and every conclusion.

The Air Ministry has promised to send a copy of the committee's report to the legal advisers of the interested parties. That is so much to the good. We are of opinion that the time has come when every report on a serious flying accident ought to be made public. It is not easy to see any good reason why this should not always be done. There may have been some feeling at one time that a report might reflect on the conduct of one of the victims. It might be necessary to comment on an error of judgment by a pilot who had paid for his mistake with his life. To do so would naturally be distasteful to the experts who had to draw up the report, and it would probably increase the distress of the relatives to have the report published. Every decent man and woman will sympathise with such feelings, and will desire to avoid causing any unnecessary pain. But after giving full consideration to such pleas, we cannot help thinking that the interests of the public would be best served by publication.

The Meopham disaster is an extreme case and a most unusual one. The public had begun to believe that aeroplanes were not what they once thought them, unchancy things which were liable to blow up for no reason at all. The newly-established confidence certainly received a shock when this Junkers disintegrated in the air. The accident, made all the more notable because well-known people were the victims, has aroused keen interest among people who ordinarily do not take much stock of aeronautics, and their desire for an explanation ought to be satisfied. And if the technical explanation of this accident is published, there can be no sound reason for not publishing the reports on all accidents.



Sir Bradford Leslie, an eminent designer of large bridges in Bengal, has written to the *Times* on the probable cost of a commercial service of airships across the Atlantic. He says that he puts forward

Commercial Airships

his figures with the greatest diffidence, but still considers them impressive. In brief, he says that a steamship of 25,000 to 30,000 tons gross to carry 800 passengers, with a speed of 20 to 22 knots, can be built for from 2½ to 3 million pounds. It could make 14 round trips per annum carrying 11,200 passengers in each direction. The life of such a steamer is put down at 25 years. This may all be solid fact, but when the

writer comes to give conjectural figures for an airship, he becomes so speculative that the figures are anything but "impressive." The cover of R 100 needs to be renewed before it is three years old; therefore the life of an airship is not likely to be more than four years, so he affirms. We do not know yet how long the framework of a rigid airship will last, but to base an argument on the life of a cover is, in any case, to confuse capital cost with maintenance costs. Also, it is not strictly correct to say that R 100 has been under cover for most of her existence. The roof of the shed at Howden leaked badly, and R 100 had to endure much rain while she was building. In any case, the cover of R 100 is admitted to be not good enough, and further progress in airship covers is desirable. Some of the same arguments apply to the life of gasbags. A new containing material is one of the desiderata to which the airship experts are looking forward.

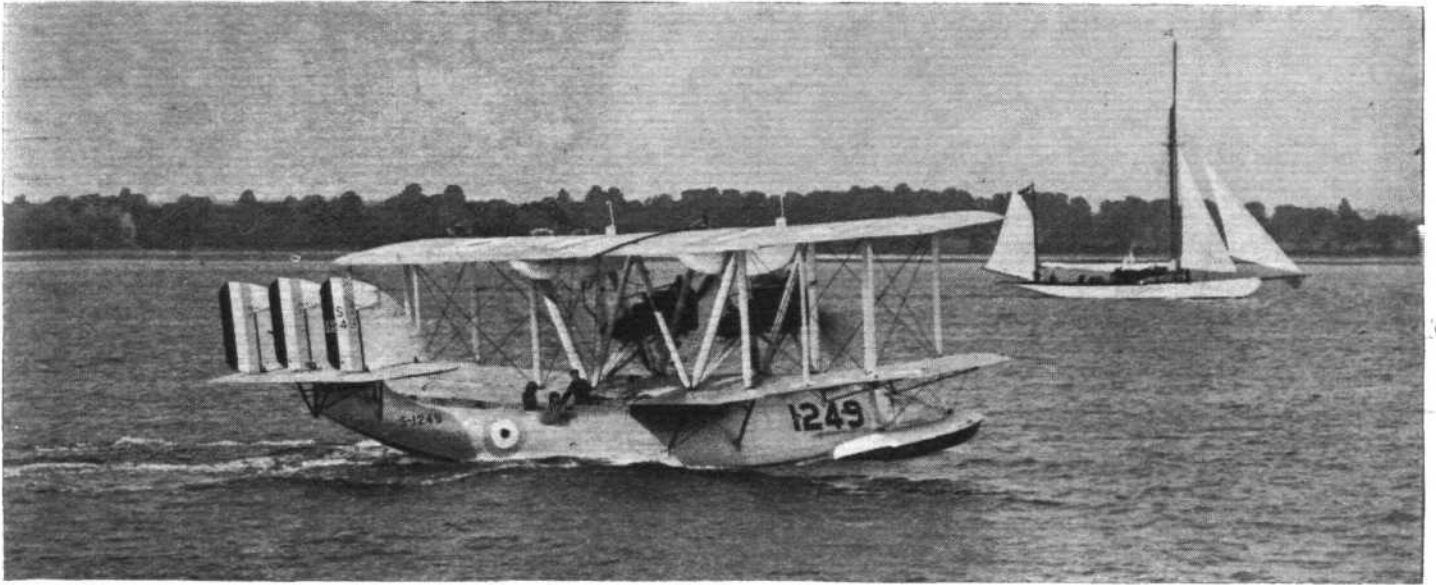
Allowing an airship 24 round trips per annum, Sir Bradford Leslie says that five airships would be required to provide the passenger accommodation provided by one steamer. In the 25 years of the steamer's life, 31 airships would be required to do the same work, and at a cost of £450,000 per airship the capital cost of the airship fleet in the 25 years would be close on 14 millions. If the life of an airship proved to be only three years, the capital cost would be over 18½ millions. He adds that each airship would take about two years to build, which would further increase the cost.

It is really extraordinary to see an engineer arguing, even with the greatest diffidence, from the figures available about two experimental airships. We feel sure that he would not have applied such methods of argument to any other form of engineering experiment, say, a ship, a bridge, or a motor car. What reason can there be for supposing that in the future an airship will take two years to build, or that it will cost as much as £450,000? The method of construction used in R 101, especially, lends itself to very rapid methods of mass production, and with production orders the cost is bound to fall. We feel far less diffidence in making the conjecture that future airships built on a production basis will not cost more than a quarter of a million each.

In each case, no airship enthusiast claims or desires that airships will supplant steamships. What is hoped is that they will prove valuable auxiliaries to the shipping lines, hurrying express mails and passengers to their destination at a speed far greater than that of any steamer. Sir Alfred Yarrow, if we remember right, expressed the opinion that the success of the airship would mean that very few more really fast steamers would be built. All fast cargo, he believed, would go by air, and the rest by comparatively slow and very economical steamers. The saving to be effected on the running of the steamers would probably pay for an ample fleet of airships, with a bit in hand for the shareholders.

We certainly hope that airships as well as aeroplanes will, in due course, prove themselves to be profit-earning vehicles. But there are certain cases where a railway does not show a profit, yet has to be maintained for the good of the community. There may be similar cases of air lines. The future of the Empire depends on fast communications, and if these will not pay for themselves, they will have to be paid for by the public. The air link with Canada is a necessity.

PREPARING FOR BALTIC CRUISE



ON September 3 four Southampton flying boats (twin Napier Lions) of No. 201 (Flying Boat) Squadron, under the command of Group Capt. Eric R. C. Nanson, C.B.E., D.S.C., A.F.C., O.C. Calshot Base, left Felixstowe for a tour of the Baltic. These Baltic cruises are now a periodical activity of the Coastal Area of the Royal Air Force, and they serve two excellent purposes in giving the best sort of practical training to formations of flying boats and in showing the flag (and some excellent hulls and engines) to our good friends (and



occasional customers) the nations which live round the Baltic Sea. The programme is as follows:—Felixstowe-Esbjerg, 360 miles, September 3, 4; to Copenhagen, 170, September 5, 6, 7; Stockholm, 430, September 8 to 12; Helsingfors, 250, September 13 to 15; Reval, 60, September 16-17; Riga, 220, September 18-19; Memel, 260, September 20-21; Puck, 130, September 22-23; Stockholm, 320, September 24-25; Gotenborg, 260, September 26-27; Oslo, 160, September 28-30; Esbjerg, 350, October 1; Felixstowe, 360, October 2.

(FLIGHT Photos.)





THE BLACKBURN "SYDNEY" FLYING BOAT

3 Rolls-Royce F.XII M.S. Engines

THE Blackburn "Sydney," the largest military monoplane flying-boat in this country, is designed to carry out the same duties as the well-known "Iris" type, namely, reconnaissance and coastal patrol, either independently or in co-operation with seacraft, and is arranged to carry a similar crew and military load.

Constructed entirely of metal, with the exception of fabric covering on the wing and tail unit, the "Sydney" is a high wing semi-cantilever monoplane flying-boat, of remarkably attractive appearance. The hull, like that of the "Iris," has a deep fore-front and is well flared to keep down spray, and the same graceful lines are kept. In the "Sydney," however, the sides of the hull above the water line are nearly perpendicular, whereas those of the "Iris" slope toward the deck at a noticeable angle; this means that the interior is much more roomy. From the second step the lines sweep upwards to the stern in which a tail defence machine gun station is provided behind the tail plane.

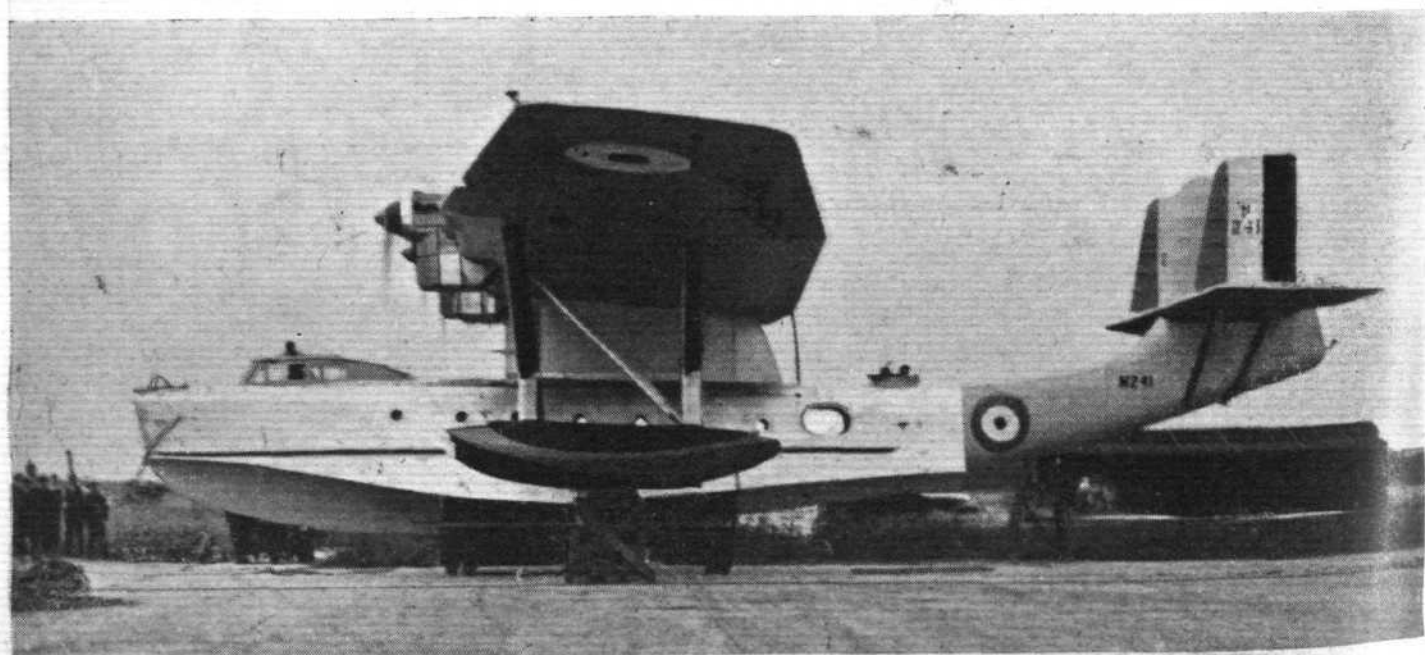
The wing is supported above the hull at the centre by a steel tubular structure built up on the hull and faired to form a streamline nacelle, and at the extremities of the centre plane by two pairs of sloping struts from the hull. In

appearance, the wing closely resembles the wings of a gull, the centre plane having a dihedral angle and the outer planes tapering to the tips in both plan and elevation. The wing floats are set comparatively close to the hull and are supported by two pairs of struts from the centre plane which bisect the wing bracing struts.

The tail plane is also a monoplane braced similarly by two pairs of struts from the hull and fitted with trimming and controlling elevators. No fins are fitted, and the three rudders, which are unbraced externally, incorporate servo control which can be engaged or disengaged as required.

The three Rolls-Royce F.XII M.S. engines (525 h.p. each) are carried in nacelles faired into the top of the leading edge of the wing. Each nacelle is fitted with a water tank and radiator with shutters and an oil tank and cooler. The main petrol tanks are carried in the faired portion between the hull, and the engines are supplied by engine pumps through distributor control.

Accommodation is provided for a normal crew of five, comprising pilot, second pilot-navigator, wireless operator, engineer and gunner. The bow cockpit is arranged for machine-gun operation, bombing, and towing and mooring



THE BLACKBURN "SYDNEY": This machine is generally similar to, but a Service version of, the "Nile," the hull of which was exhibited at Olympia last year.

operations which are carried out by the navigator. Communicating with the bow cockpit is the control cabin which is completely enclosed. Two comfortably-upholstered adjustable seats are mounted side by side on a higher level than the central gangway and dual flying and engine controls are fitted. The cabin top, which permits an excellent view in all directions, is fitted with sliding side windows and sliding panels in the roof through which a good upward and rearward outlook can be obtained.

Dividing the control cabin from the remaining interior stations is a water-tight bulkhead with communication through a door in the centre. Behind this bulkhead on the port side is the navigator's station and on the starboard side the wireless station. The navigator is provided with a chart table and revolving chair, and stowage for navigation instruments, etc. Mounted on the bulkhead on the port side are a compass bracket, a mirror, and, in the centre at the top, a clock. On the starboard side, the wireless apparatus is carried on a panel against the bulkhead and a similar table and chair are fitted. Aft of the wireless station is a settee berth, the back of which hinges upwards to form an upper berth; locker space for clothes, etc., is provided below the bottom berth. On the port side are three mahogany cupboards for canteen equipment, crockery, etc. On the front of the rear main

frame of this compartment, on the starboard side, an engine instrument panel with radiator shutter controls is mounted; this is the engineer's station and is fitted with two seats with locker space underneath. The next station aft forms the men's sleeping quarters and is equipped with three folding bunks, two on the port side and one on the starboard side.

Further aft, an enclosed lavatory with door is provided on the port side. Behind this is a cooking stove with ice chest beneath, and on the starboard side are fresh water and paraffin storage tanks. At the rear of this compartment is the rear machine-gun cockpit below which is the gunner's platform; this platform has a hinged top which gives access to locker space beneath. A separate portion of this platform also hinges upwards to allow communication with the after part of the hull and tail defence station.

While complete data regarding the "Sydney" may not be given, it may be stated that fully loaded its gross weight is nearly 10 tons. Its military load is very similar to that of the "Iris," and in size it closely resembles the "Nile" merchant flying-boat which was laid down at the same time as the "Sydney" but has been delayed owing to the urgency of its military counterpart. In respect of performance, the "Sydney" is expected to be faster than both the "Iris" and "Nile," and to have a top speed of over 120 m.p.h.

CROYDON WEEKLY NOTES

ONCE more we have to clap Charlie Barnard upon the back with a hearty and sincere cry of "Bravo" for his consistent success in bringing off yet another remarkable long distance flight.

There was a small but genuinely enthusiastic crowd to welcome him on his return from Tangier on Tuesday evening, August 26, and there was nothing perfunctory in the rousing cheers they gave him.

In a few modest words very much to the point, Barnard said that the flight had been made to prove what could be done in the way of fast, nonstop mail carrying on long distance Empire routes. Incidentally, he remarked upon the delightfully easy handling of his Puss Moth fitted with Areas Controls. His flying time and distance were approximately 24 hours for 2,400 miles.

We are all very sorry to hear of Capt. Neville Stacks' bad luck; his machine standing unattended at Le Bourget, was apparently started up by some interfering mechanic, and being at half throttle, it set off by itself and collided with a hangar door. This has delayed Capt. Stacks' intended European tour via Paris, Marseilles, Barcelona, Madrid, etc., which was to follow his recent extremely successful flying tour of twenty-five days, during which comparatively brief period he visited and did business in Rothe, Amsterdam, Berlin, Posen, Warsaw, Beren, Dessau, Rostock, Copenhagen, Hamburg, Ostend, etc.

The Emigration Authorities at the Aerodrome, used as they are to queer spectacles, opened their eyes in amazement the other day, when two austere clergymen arrived by air wearing highly coloured berets, and when these were shortly followed by a "braw laddie" in a glengarry who on being challenged hotly denied any connection with Scotland and violently maintained that he was a good American, in an accent which left no doubt about it. We think Mr. Winston Churchill should be consulted in this matter.

The irrepressible Horsey has acquired a Bo'sun's whistle with which he signifies his readiness to depart from the Tarmac, and on which in bumpy weather he gives short blasts to his passengers followed by the command "Next floor please—keep clear of the gates."

It is understood that all the Desoutter machines now on the stocks are already sold to owners from Australia, New Zealand, Canada, Irish Free State, Poland, etc., and that the firm is working night and day to cope with orders. After inspecting the latest inverted Hermes Desoutter destined for Poland, which is upholstered in leather, and altogether gives an excellent impression, we can only say that we do not wonder at the popularity of this little machine. It is the production of those two past masters, Messrs. Desoutter and Handasyde, who if suitably cajoled can spin many a yarn of queer craft designed in 1911 or thereabouts, and quaintly named—The Flying Bedstead, Easter Egg, Dough Nut, Henrietta, Osley Bird, etc.

Whilst on the question of design, it is "grateful and comforting" to observe how our designers after all these years have come at last to realise that the pilot wants to see something of his surroundings, without being made actually uncomfortable in flight.

Instead, therefore, of building an aeroplane and making a last minute "Cubby hole" in the nose—tail—on top, or underneath, into which the pilot can be forced, the present-day designer incorporates a comfortable cockpit in the design, and one has to thank our Dutch and German friends, who have been doing this for years, for bringing this aspect of design to our notice.

"Cap" Muir is still in wonderful form, and has been keeping us all amused with his *bon mots*. Discussing the relative merits of the pusher and tractor aeroplane, he remarked that he had flown every type of pusher machine ever constructed, from Longhorns, Shorthorns, Vickers' gunbusses, Fe2b, Fe2d, Fe8, D.H.1's, but that he objected to the feeling of being pushed round and round the wide-wide skies on the *end of a shovel*.

Anyone who has flown a D.H.1 will realise the aptness of this remark.

Knowing the thoroughness and sound judgment of our Dutch friends, we can rest assured that any internal difference of opinion between the Management and Pilots of K.L.M. will be settled as quickly as possible for the best, though it may be a longer time than it would be with more frivolous-minded folk, for both the pilots of Dutch nationality, who have put up such a fine show in commercial flying, and the Management of K.L.M., which has pulled that firm through the lean and troubled years of aviation with such skill, enterprise and foresight, are people of determined character. Therefore, we say, "Arbitrate, good friends."

We all extend our sympathies to the relatives of Mr. Van Lear Black, who was recently drowned; he was a very familiar figure with us at Croydon, and he won our hearts with his kind and pleasant manner. He showed that it was possible to be a cultured human being and sportsman, as well as a millionaire, and he did an enormous amount of good for aviation.

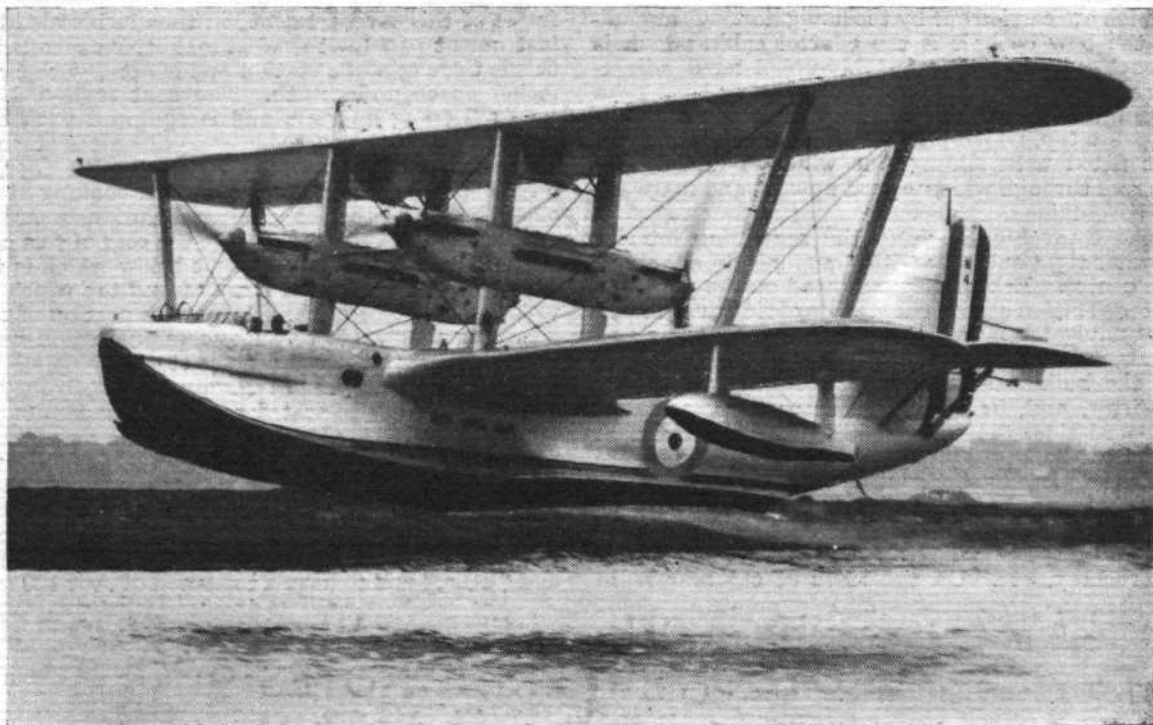
We learn with deep regret that we soon may have to part with our very old friends "Capt. Ship" Delage and Capt. Sautereau, who, in the very near future propose leaving for South America, where they will act as pilots for the Aeropostale Co.

Cirrus Aero Engines, Ltd., are still doing remarkably well with the "Hermes," as evidenced by Flt. Lt. Stainforth's flight in very bad weather from Heston to Newcastle last Saturday at 7,500 ft., when he won the Arrival Competition, and would have won the race but for a misunderstanding about rounding a Pylon. Anyway, the winning machine, flown by F/O. H. H. Leach, was also fitted with a Hermes engine.

Incidentally we hear very good reports about the Hawker Tom-Tit (Hermes), which is at present undergoing its tests at Martlesham.

We have not referred to the regular Air Lines, for the simple reason that—K.L.M. excepted—everything is running so nicely day and night, and there is nothing to report—unless it be that the volume of business is steadily increasing, the figures for this week being 1,524 passengers and 74 tons goods.

M. L.



SHORT "SINGAPORE" MARK II

Four Rolls-Royce F.XII M.S. Engines

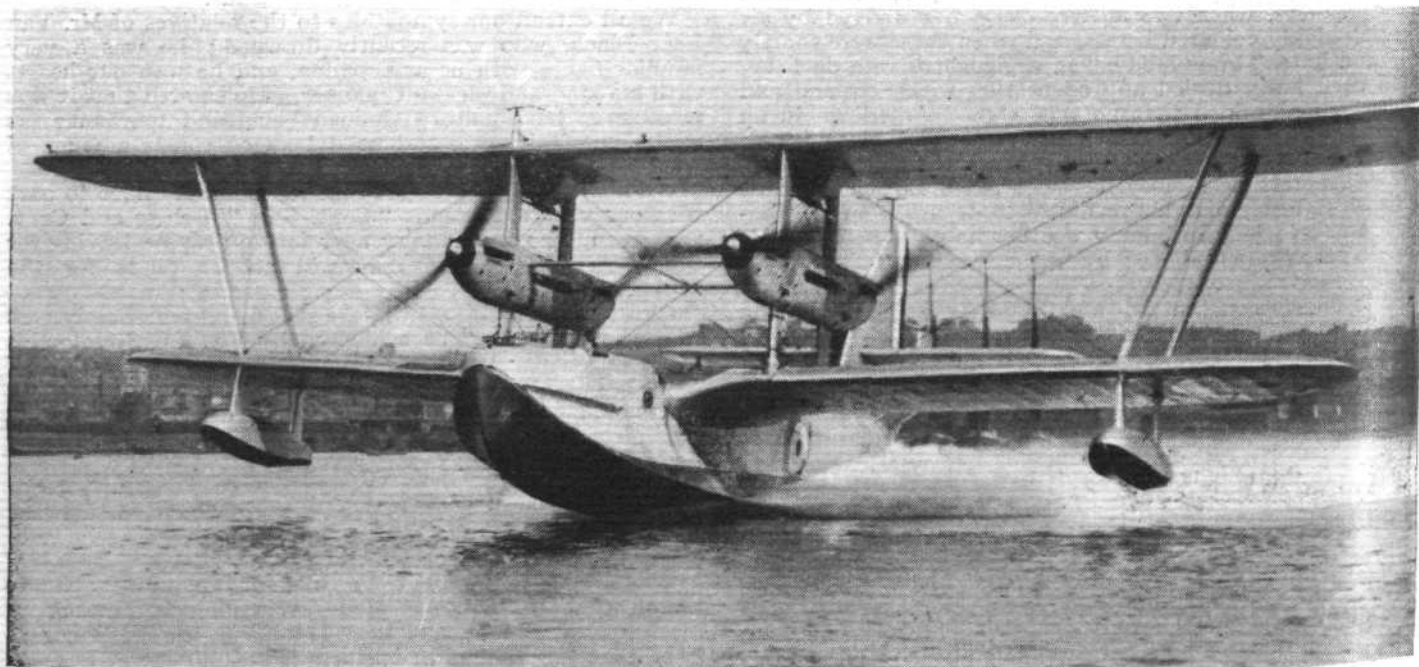
ALTHOUGH the tandem arrangement of engines has been used extensively by certain foreign designers, it has not of recent years been in favour in Britain. There are indications, however, that the system is to be given more attention in the near future, and one aircraft launched not very long ago employs this engine arrangement with, as far as the admittedly somewhat short experience of it hitherto indicates, very excellent results. The last large British aircraft to employ engines placed in tandem was the Handley Page V-1500. The latest machine to be similarly equipped in the matter of power plant installation is the new Short "Singapore" Mark II, a large all-metal flying boat designed and built for the British Air Ministry for patrol and reconnaissance duties.

The first "Singapore" was, it may be recollected, a twin-engined flying boat fitted with two Rolls-Royce "Condor"

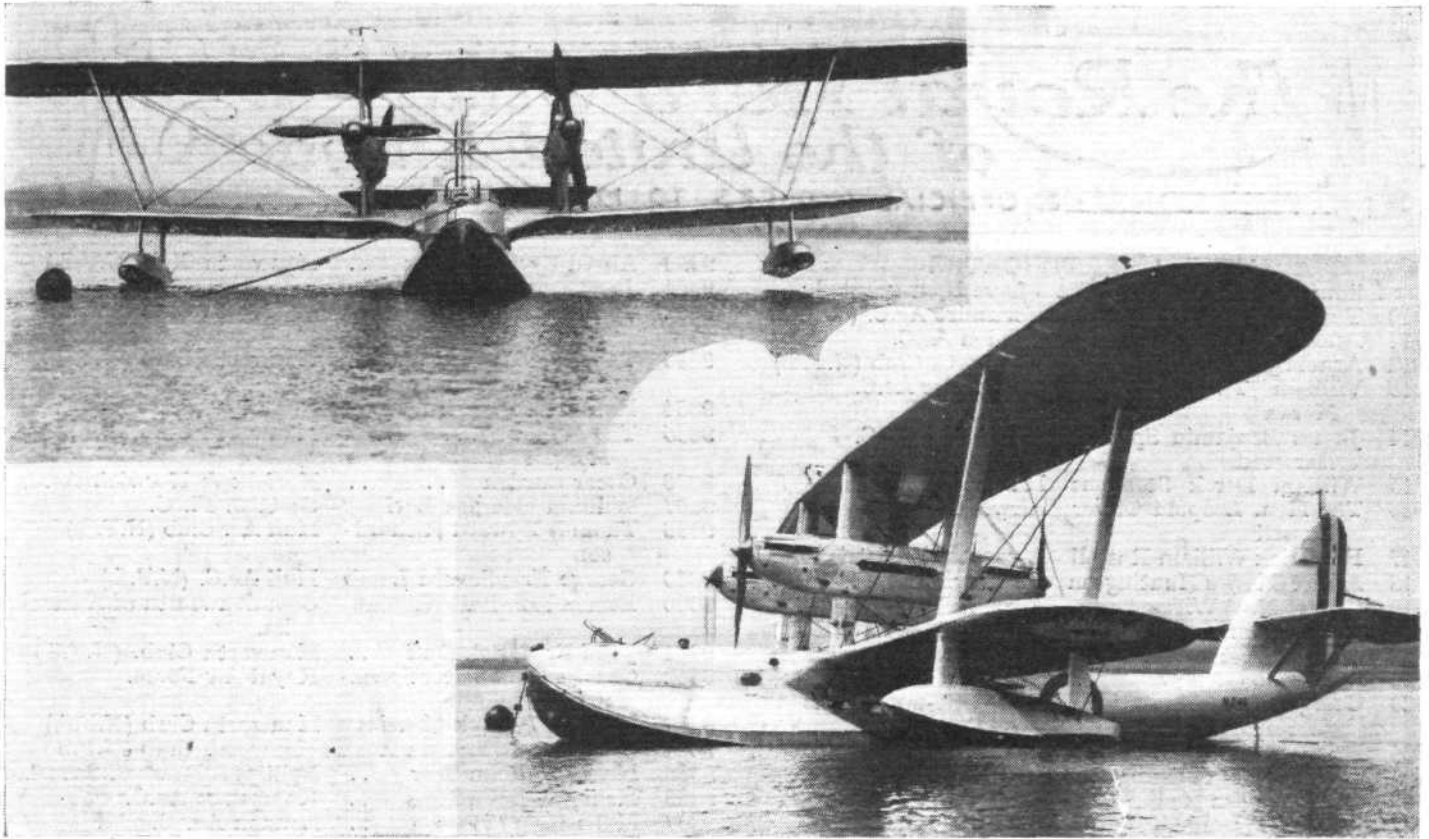
engines. It was on this machine that, later on, Sir Alan Cobham made his flight around Africa. The latest type of "Singapore" is a development of the first machine, modified where experience with the first machine, and with the "Calcutta" civil flying boats, has indicated that modifications were desirable.

Due to the fact that the machine is the property of the Air Ministry, and is still classed as an experimental machine, it is not possible to refer to many of the features which make this such a very interesting flying boat. Detail alterations have been made in the hull, not only in shape, but in constructional methods and materials. Astute readers may note in the accompanying photographs that the bottom of the boat hull is of a colour different from that of the upper part, and may draw therefrom their own conclusions.

Perhaps the greatest changes are to be noted in the super-



CLEAN RUNNING: The "Singapore" Mark II planing on her step.



THE "SINGAPORE" MARK II: Two views of the machine at rest. Note the small frontal area, and the lower wing root fairings.

structure. It is doubtful if any designer could have produced a "cleaner" combination of biplane wings and four engines. The placing of the four engines in two tandem pairs reduces the frontal area by half, approximately, but the designers of the "Singapore" Mark II have gone farther than that, and have simplified the wing bracing structure until it has the appearance of consisting of an irreducible number of parts. The manner in which the tandem engines are mounted on, and their fairing surrounding, the single long struts is extremely neat, and must have helped materially to reduce drag.

Performance figures may not at the moment be published, but it is probably no exaggeration to say that the "Singapore II" is one of the world's fastest flying boats, if not indeed the fastest. The machine shown in the photographs is, of course,

the service type, and at present no civil version is in existence. In view of the fact, however, that many incline to the opinion that the future Empire air route machine for passengers will be a large, multi-engined flying boat, one may hope that the not too distant future may see the introduction of a "civilianised" version with a cruising speed which will shorten the time to India and Australia to an extent which is not possible with the machines at present in use. If the four-engined arrangement of the "Singapore II" is successful—as it promises to be—the risk of forced landings should be very remote, and night-flying on certain sections of an Empire air route should not be beyond realisation. In the meantime, Short Brothers have once more produced a flying boat of service type which marks a very definite step forward in combining high performance with ease of handling.

The British Arctic Air Route Expedition

THE British Arctic Air Route Expedition, under the leadership of Mr. H. G. Watkins, left England on July 6 in the ship *Quest*, famous as the ship of the late Sir Ernest Shackleton. It reached Angmagssalik, on the east coast of Greenland, on July 24. The object of the expedition is to explore the possibilities of establishing an air route from Great Britain to Canada via the Faroes, Iceland, and across the central plateau of Greenland, emerging on to the North American continent in the neighbourhood of Hudson Strait, and working down through the "frozen north" of Canada to Winnipeg.

The expedition has with it two De Havilland Gipsy-Moth seaplanes. One is absolutely standard, but the other, registered as G-AAUR, has been specially fitted for Arctic flying. It has a wooden fuselage. The floats have been specially stiffened up to allow for emergency landings on ice, but two ski undercarriages are also carried, and can be quickly fitted in place of the floats. In the front cockpit there is a 20-gall. auxiliary petrol tank, which brings the total capacity up to 39 galls. and allows a range in still air of about 800 miles. This tank does not prevent a passenger from sitting in the front cockpit. There is a coupé head covering over both cockpits, and part of the exhaust system is so arranged as to provide heating in the cockpits. Special equipment is provided to ensure easy starting of the engine in Arctic conditions. The oil is first heated and then poured into the sump. A detachable cover fits over the engine, through which there is a hole for inserting a blow-lamp to warm the sump. A tap, instead of the usual plug, is fitted in the bottom of the sump, so that the oil can be drained

off at night. The Moth carries 2 Williamson cameras, one fitted in the floor of the front cockpit, for taking vertical views, and one mounted on the side of the front cockpit for taking oblique photographs. The luggage locker is 5 in. deeper than in standard models, and there photographic plates will be carried, as well as rations, etc., and there is a special bag for the necessary firearms. The compass is of the P.4 type.

The pilot is Flight-Lieut. Narbrough H. D'Aeth, who has been put on special duty by the Royal Air Force while working with this expedition.

The Finding of Andrée

ON September 2 the expedition ship "Bratvaag" arrived at Tromsø and landed the bodies and equipment of the Andrée expedition found on Gile Island. An embalmer had been sent to Tromsø, but it appears that the bodies are not well preserved, as was first reported, and are actually little more than skeletons. The remains of Andrée himself were identified by marks on the clothes, but the skull is missing. The second skeleton is supposed to be that of Strindberg, but the bones frozen into the boat have proved to be those of a bear. The fate of the third member, presumably Fränkel, is therefore not yet known. It is stated that Andrée took with him a special camera, with a rolling film made by the firm of Eastman, and hopes are entertained that it may be possible to get some result by developing the film. The bodies will be brought from Tromsø to Sweden in the Swedish gunboat "Svenskund," which took Andrée out to Spitzbergen in 1897. The relations of Andrée have given consent to the Government taking charge of his body, and also of his diary.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

AVIATORS' CERTIFICATES

The following Aviators' Certificates have been granted:—

9310	Thomas Martin (Jnr.) ..	Yorkshire Ae.C. (N.F.S.)	9350	Alfred Cyril Lovesey ..	Hanworth Club (N.F.S.)
9311	Allen Frederic Kemp ..	London Ae.C.	9351	Jack Eugene Markby ..	Leicestershire Ae.C.
9312	Arnold James Cohen Stuart	Hanworth Club (N.F.S.)	9352	Trevor Alsop Breffney	Hanworth Club (N.F.S.)
9313	William Thomas Alldis	Hampshire Ae.C.		Ternan	
	Moran		9353	The Hon. Thomas William	Hanworth Club (N.F.S.)
9314	James Benjamin Spencer	Hampshire Ae.C.		Assheton Frankland	
	Barwood		9354	Robert George Henry Box	Bristol & Wessex Ae.C.
9315	William Derek Stephens	Hampshire Ae.C.	9355	The Hon. Mrs. Lois Evan	Hanworth Club (N.F.S.)
9316	The Hon. Leopold Oliver	Airwork Fl. School.		Morgan	
	Russell		9356	Oscar Garden	Norfolk & Norwich Ae.C.
9317	Frederick William Russell	Liverpool & District Ae.C.	9357	William Douglas Lorimer	Scottish Fl. C.
9318	Albert Charles Huntington	De Havilland Fl. School.	9358	Thomas Edward Richard-	Hull Ae. Club (N.F.S.)
9319	George Noel Wilson ..	Airwork Fl. School.		son	
9320	George William Cannon ..	Hanworth Club (N.F.S.)	9359	George Eric Severn Lamb	Hull Ae.C. (N.F.S.)
9321	Horace Westmacott Noble	Airwork Fl. School.	9360	Esmond Birdsall Wilshire	Commonwealth of Australia.
9322	Nancy Goodfellow ..	Liverpool & District Ae.C.	9361	John Frederick Duff ..	Hanworth Club. (N.F.S.)
9323	George Gray Milne ..	Newcastle-upon-Tyne	9362	Charles Basil Slater Spack-	Royal Air Force.
		Ae.C.		man	
9324	Eric Appleton	Liverpool & District Ae.C.	9363	Howard Patrick Menzies	Hanworth Club (N.F.S.)
9325	Guy Thomas Hanmer ..	Bristol & Wessex Ae.C.	9364	Augustus Albert da Rosa	Hanworth Club (N.F.S.)
9326	Joan Douglas Medlicott..	Bristol & Wessex Ae.C.	9365	Henry William Sear ..	Phillips & Powis Fl.School.
9327	Harold Dorondo Mills ..	Liverpool & District Ae.C.	9366	Henry William Moss ..	Hampshire Ae.C.
9328	Bruce Herbert Olney ..	Northamptonshire Ae.C.	9367	Hillis Kyle Houston ..	London Ae. C.
9329	Alan Cedric Griffiths ..	Airwork Fl. School.	9368	Axel Hjalmar Whale ..	Brooklands School of Fl.
9330	Lady Grace Marguerite	Airwork Fl. School.	9369	Michael Frederic Anderson	Airwork Fl. School.
	Hay Drummond-Hay		9370	William Desmond Revel	Berks, Bucks & Oxon
9331	Thomas Steel Dykes ..	Scottish Fl. C.		Bravington	(N.F.S.)
9332	Denis Ziani de Ferranti..	Northern Air Lines	9371	John Valentine Carden ..	Airwork Fl. School.
		(Manchester) Ltd.	9372	James Sydney Bentley ..	Hanworth Club (N.F.S.)
9333	John Clarkson Fletcher	Liverpool & District Ae.C.	9373	Mina Kathleen Stoop ..	Brooklands School of Fl.
9334	George Richard Audley	Liverpool & District Ae.C.	9374	Mortimer Henry Marion	Hanworth Club (N.F.S.)
	Johnson			Durand	
9335	Nigel Benjamin Cohen ..	Marshall's Fl. School.	9375	Joseph Carey Crabtree	Hanworth Club (N.F.S.)
9336	Beatrice Garvan Sheridan	Hanworth Club (N.F.S.)		Taylor	
9337	Harold Charles Paul ..	Hanworth Club (N.F.S.)	9376	Kathleen Eleanor	Cinque Ports Fl. C.
9338	Leslie Joseph Guy Hoile	Hanworth Club (N.F.S.)		Hammond-Davies	
9339	Horace Archibald Pearson	Scottish Fl. C.	9377	Martin Henry Tomlins ..	London Ae.C.
9340	Richard Paget Baxter ..	Surrey Fl. Services.	9378	Tom Trevor Sawday ..	Leicestershire Ae.C.
9341	Sir Anthony H. Lindsay-	Brooklands School of Fl.	9379	Herbert Leslie Berry ..	Suffolk & Eastern Counties
	Hogg, Bart.				Ae.C.
9342	Christopher David George	Marshall's Fl. School.	9380	Wilfred Cranmer Berry	Suffolk & Eastern Counties
	Nicholson				Ae.C.
9343	Guy Maxwell Tylden-	Airwork Fl. School.	9381	John Edgar Howard Smith	Nottingham Ae.C. (N.F.S.)
	Wright		9382	Ronald Leslie Wing ..	Nottingham Ae.C. (N.F.S.)
9344	Andrew Thomas Smith ..	Liverpool & District Ae.C.	9383	Kamal Eloui Bey ..	Hanworth Club (N.F.S.)
9345	Reginald Albert Patrick	Bristol & Wessex Ae.C.	9384	George Russell Jackson..	Newcastle-upon-Tyne
	Shellard Heaven				Ae.C.
9346	Diedrich Ahlers ..	Brooklands School of Fl.	9385	Alfred Hardwick Marsack	Hanworth Club (N.F.S.)
9347	Dan Mehta	Surrey Fl. Services.			
9348	David Ludgate Ward ..	Royal Air Force.			
9349	Henry Leeson	Cinque Ports Fl. Club.			

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DEATH OF MR. COLEBROOK OF "THE TIMES"

No aeronautical journalist but will hear with the most intense sorrow of the death, on August 29, of C. L. G. Colebrook of *The Times*. The sorrow will be mingled with genuine relief that his sufferings are over, for it has been general knowledge for months past that no hope could be held out of his recovery. It was that terribly sad news which caused the greatest shock and grief among all his friends. Now we cannot but feel glad that he has found peace.

To all who worked with him and saw him at work, Colebrook was a model of knowledge, information, and sound judgment, inspired by the most tireless energy. He would never rest content until he had probed to the uttermost depth of any aeronautical point. No trouble was too great for him, no hours of work too long. Only when he had learnt every detail which it was possible to learn would he start to write. The surprising thing was that a man so apparently intent on detail never let a mass of details blind

him to the large significance of any event which he was studying. He was essentially long-sighted, and his judgment was of the soundest. His work in interesting the public in the progress of flying, in teaching his readers that the progress of flying was something bigger and more important to the world than a mere sensational item in the news columns of a daily paper, was work of the highest order. Everyone who has the interests of flying at heart must acknowledge the debt which the movement owes to C. G. Colebrook.

It was a pleasure to be associated with Colebrook in any piece of work. He was a valued companion, and was always ready to help anyone who needed help. His friends will miss him sorely, and without his presence aeronautical gatherings will not be quite what they were before.

To Mrs. Colebrook we wish to offer our very deepest sympathy.

CIRCUIT OF ITALY

Contest Won by Italy

SUBJECT to official confirmation the classification, of the first four competitors, in the *Giro Aereo d'Italia*, is as follows: First, Colonel Sacchi (120 h.p. Walter-engined Breda 15-S). Second Signor Donati (90 h.p. Fiat-engined Fiat TR-1). Third Herr Lusser (100 h.p. Argus-engined Klemm 25). Fourth, Miss Winifred Spooner (120 h.p. Gipsy II-engined "Moth"). The system adopted in the award of points was such as to penalise the powerful and fast machine as compared with the lighter machine of lower power, and, in spite of her flying a magnificent race around Italy, over much difficult and occasionally unknown country, Miss Spooner was unable to make up the points which she lost in the technical tests and award of points for various

features. It is a somewhat curious coincidence that Miss Spooner was also fourth in the International Touring Competition which finished in Berlin recently. On that occasion, however, she was actually first in the heavier class of machine. In the Italian competition no such distinction was made, and the regulations, tests, &c., were of a different character. Miss Spooner deserved to have been among the first three, at the very least, but her plucky fight, which in the end gained her fourth place, has greatly impressed our Italian friends, and has done much to enhance British prestige in Italy. For that, and for her excellent sportsmanship, Miss Spooner deserves the thanks of the British aviation community.

Results of Practical Tests, and Handicap Allowances in Circuit of Italy

Classification and Number.	Name of Pilot.	Nationality.	Aircraft.	Engine and h.p.	Weight.	Power	Take-off.	Altitude.	Landing.	Touring Qualities.	Total.	Handicap in Minutes.
1	Lusser ..	G.	Klemm 25 ..	Argus 100 ..	8	16	5	19	0	15	63	0
2	Fumagalli ..	I.	Roméo Ro.-5 ..	Fiat 85 ..	5	20	3	12	0	22	62	1
3	Notz ..	G.	Klemm 25 ..	Argus 100 ..	8	16	4	19	0	15	62	1
4	Mazzotti ..	I.	Breda 15-S ..	Isotta-Fr. 100 ..	1	16	1	16	0	22	56	7
5	Fr. Lombardi ..	I.	Fiat TR-1 ..	Fiat 90 ..	3	17	0	12	6	15	53	10
6	Stein ..	G.	Albatros 101 ..	Argus 100 ..	2	16	0	3	8	24	53	10
7	De Bernardi ..	I.	Caproni 100 ..	Cirrus 105 ..	2	15	1	16	0	18	52	11
8	Donati ..	"	Fiat TR-1 ..	Fiat 90 ..	3	17	0	12	5	15	52	11
9	Agello ..	"	Macchi 70 ..	Colombo 80 ..	2	19	4	4	10	13	52	11
10	De Angeli ..	"	Breda 15-S ..	Walter 85 ..	2	17	0	10	0	22	51	12
11	Meleri ..	"	Breda 15-S ..	Colombo 118 ..	1	11	0	20	0	19	51	12
12	Colombo ..	"	Breda 15-S ..	Colombo 118 ..	1	11	0	20	0	19	51	12
13	Aime ..	"	Breda 15 ..	Colombo 85 ..	2	19	0	3	0	26	50	13
14	Cotichini ..	"	Breda 15 ..	Colombo 85 ..	2	19	1	3	0	25	50	13
15	Ferrarin ..	"	Caproni 100 ..	Cirrus 115 ..	2	15	1	14	1	17	50	13
16	Antonini ..	"	Caproni 100 ..	Cirrus 115 ..	3	15	1	13	1	16	49	14
17	Caprotti ..	"	Fiat AS-1 ..	Fiat 85 ..	3	20	0	0	0	25	48	15
18	Robbiano ..	"	Fiat AS-1 ..	Fiat 85 ..	3	18	0	4	0	23	48	15
19	Fugazzola ..	"	Fiat AS-1 ..	Fiat 85 ..	3	20	0	0	0	25	48	15
20	Bedendo ..	"	Fiat AS-1 ..	Fiat 90 ..	3	18	0	8	0	19	48	15
21	Pellegrini ..	"	Fiat AS-1 ..	Fiat 85 ..	3	20	0	0	0	25	48	15
22	Fougier ..	"	Roméo RO-6 ..	Fiat 85 ..	2	17	0	9	4	16	48	15
23	Mauro ..	"	Fiat AS-1 ..	Fiat 85 ..	3	20	0	0	0	24	47	16
24	Battenti ..	"	Breda 15 ..	Colombo 85 ..	2	19	0	0	0	26	47	16
25	Suffo ..	"	Roméo RO-5 ..	Fiat 85 ..	2	20	1	1	0	23	47	16
26	Liberati ..	"	Roméo RO-6 ..	Fiat 85 ..	1	17	0	9	4	16	47	16
27	Bonucci ..	"	Fiat AS-1 ..	Fiat 85 ..	3	20	0	0	0	24	47	16
28	Sartorelli ..	"	Fiat AS-1 ..	Fiat 85 ..	3	20	0	0	0	24	47	16
29	Collati ..	"	Fiat AS-1 ..	Fiat 85 ..	3	20	0	0	0	24	47	16
30	Sacchi ..	"	Breda 15-S ..	Walter 120 ..	0	10	0	18	0	18	46	17
31	Lana ..	"	Roméo RO-6 ..	Fiat 85 ..	1	17	1	10	1	16	46	17
32	Monti ..	"	Fiat AS-2 ..	Fiat 90 ..	2	17	0	7	5	15	46	17
33	Di Loreto ..	"	Roméo RO-5 ..	Fiat 85 ..	2	20	0	0	0	23	45	18
34	Fer. Lombardi ..	"	Fiat AS-1 ..	Fiat 85 ..	3	20	1	0	0	21	45	18
35	Rasini ..	"	Breda 15-S ..	Colombo 118 ..	0	11	0	15	0	19	45	18
36	Paradisi ..	"	Caproni 100 ..	Colombo 80 ..	4	19	0	0	4	18	45	18
37	Roccato ..	"	Breda 15-S ..	Walter 120 ..	1	10	1	15	5	18	45	18
38	Miss Spooner ..	Br.	Moth ..	Gipsy 105 ..	1	14	0	12	0	13	45	18
39	Guazzetti ..	I.	Roméo RO-6 ..	Gipsy 105 ..	2	14	0	15	0	14	45	18
40	Brack-Papa ..	"	Fiat TR-1 ..	Fiat 105 ..	2	17	0	8	2	15	44	19
41	Martelli ..	"	Caproni 100 ..	Walter 120 ..	2	10	1	19	0	12	44	19
42	Guglielmotti ..	"	Fiat AS-2 ..	Fiat 90 ..	1	17	0	8	2	15	43	20
43	Matricardi ..	"	Caproni 100 ..	Isotta-Fr. 100 ..	1	16	0	9	0	17	43	20
44	Gastaldi ..	"	Caproni 100 ..	Fiat 85 ..	2	19	0	3	0	18	42	21
45	Mazzucco ..	"	Caproni 100 ..	Isotta-Fr. 100 ..	0	16	0	8	0	17	41	22
46	Bertocco ..	"	Roméo RO-6 ..	Fiat 85 ..	2	17	1	0	5	16	41	22
47	Bloom ..	Bg.	Saint-Hubert ..	Walter 85 ..	8	19	0	2	0	12	41	22
48	Gaeta-Tessari ..	I.	Caproni 100 ..	Cirrus 115 ..	1	15	0	8	0	16	40	23
49	Gamna ..	"	Fiat AS-2 ..	Fiat 90 ..	2	17	0	5	0	15	39	24
50	Dufaux ..	S.	Fiat AS-1 ..	Fiat 85 ..	1	17	2	0	2	17	39	24
51	Sartori ..	I.	Macchi 73 ..	Colombo 118 ..	0	11	2	18	0	8	39	24
52	Gelmetti ..	"	Roméo RO-6 ..	Fiat 85 ..	2	17	0	2	0	16	37	26
53	Gagliani ..	"	Caproni 100 ..	Walter 120 ..	0	10	1	14	0	12	37	26

Br. = British ; Bg. = Belgian ; G. = German ; I. = Italian ; S. = Swiss.

The Actual Race

The *Giro Aereo d'Italia* consisted of a Circuit of Italy, a total distance of 3,406 km. (2,115 miles), divided into four stages, as indicated on the accompanying sketch map. The first stage, Rome-Rimini, was flown on August 25, the distance being 1110.5 km. (690 miles). The second stage, Rimini-Venice, a distance of 872.5 km. (542 miles) was flown on August 27. The third stage, Venice-Turin, was flown on August 29, the distance being 622 km. (386 miles), and the fourth and final stage, Turin-Rome, on August 31 (800 km.) (497 miles).

The Circuit of Italy was a handicap speed race, the handicap allowances being calculated according to the number of points gained in the preliminary technical tests, &c. The table on the previous page shows the number of points gained by the various competitors, and the handicap allowances which resulted therefrom. It will be seen that Miss Spooner had to give the German pilot Lusser, who was first in the preliminary tests, a start of 18 minutes in the Circuit of Italy.

Starting from Rome according to her handicap, Miss Spooner was the 38th competitor to leave. At Naples Miss Spooner had pulled up to twelfth place. At Brindisi she had pulled up to sixth place, and at Fermo she was actually second. She lost her way slightly in the neighbourhood of San Marino, and fell back to ninth place on arrival at Rimini. The first man to complete the first stage was Colonel Sacchi.

On the second stage Miss Spooner arrived second at Venice, Colonel Sacchi being first man home. On this stage Miss Spooner actually did the fastest time, her speed being 1 m.p.h. faster than Colonel Sacchi's.

On the third stage Colonel Sacchi kept his lead, and Miss Spooner dropped to eleventh place of arrival at Turin. In the last stage, Turin-Rome, Miss Spooner pulled up to second place again, and also did the fastest time over the stage. She arrived but two minutes after the first man home, the German pilot Lusser, who had managed to beat Colonel Sacchi during the last day's run.

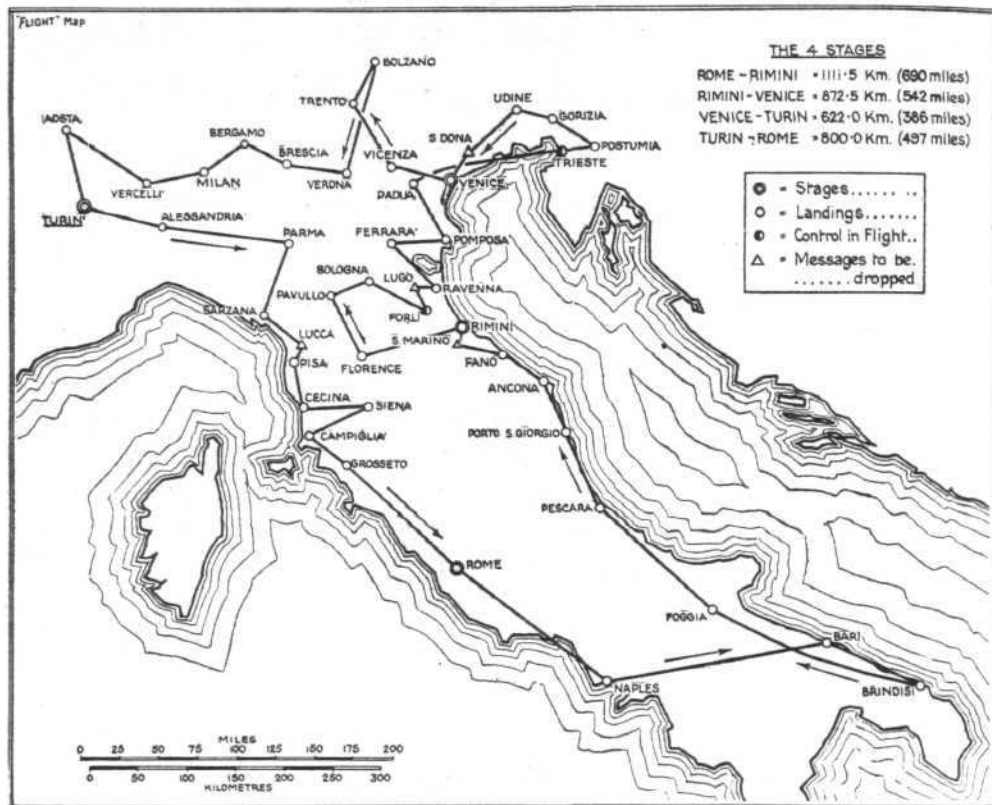
On September 1 the De Havilland Aircraft Co., Ltd., received the following telegram from Miss Spooner: "Arrived second Rome. Am fourth in competition. Did fastest time second and last stage, Rimini-Venice, Turin-Rome. Flew full throttle whole time. Engine never faltered in spite of great heat, and still going strong."

Preliminary Tests

The Circuit of Italy did not prove quite the International event expected. Altogether, 66 machines had been entered, but there was the usual number of non-starters, which brought down the number of machines taking part in the preliminary technical tests to 53, of which 47 were Italian machines, 3 German, 1 British, 1 Belgian and 1 Swiss. Of the 47 Italian machines, 12 were Fiat A.S.-1, 11 Caproni 100, 10 Breda 15, 6 Romeo Ro. 6, 3 Romeo Ro. 5, 3 Fiat A.S.-2, and 2 Macchis.

Before starting on the Circuit of Italy, the machines had to pass a series of technical tests and examinations, according to the results of which the handicap allowances in the Circuit were calculated. Briefly, the principle adopted—one which is not altogether above criticism—was that a maximum of 90 points could be awarded in the technical, etc., tests, and that the number of points separating any two competitors should represent the same number of minutes handicap allowance. For example, a competitor who was 20 points behind the best man would have to start each stage of the Circuit of Italy 20 minutes behind the best man. It does not appear by any means clear that this basis was a fair one, or, in other words, that a point lost in the technical tests would necessarily correspond to a better speed to enable the competitor to give away one minute.

Weight.—The competition was limited to light aeroplanes of category I of the F.A.I. regulations, but a tolerance of



The Circuit of Italy: "Flight" Sketch Map of the Course.

20 per cent. on this figure was allowed for the purpose of the competition. This brought the maximum permissible tare weight up to 480 kg. (1,056 lb.). Machines which did not exceed the 400 kg. tare weight were awarded 8 points. Those heavier than 400 kg. lost 1 point per 10 kg. in excess of 400 kg. Our table shows that only two of the machines received full points for weight, i.e., that only two did not exceed 400 kg.

Horse-power.—As a basis for engine power was chosen 80 b.h.p. Competitors whose engines did not exceed this figure were awarded 20 points. Those with more powerful engines were penalised at the rate of 1 point per 5 b.h.p. in excess of 80.

Take-off.—This consisted in measuring the distance run by machines before leaving the ground, and a maximum of 5 points was awarded for the shortest run to take off. This was achieved by Lusser on the Argus-engined Klemm, whose run was only 60 m. The other Klemm, piloted by Notz, was next best, and received 4 points, as did also Agello's Macchi. The more powerful machines, as might have been expected, did not do well in this test on account of their weight.

Altitude Test.—This consisted in reaching the greatest possible height in 40 minutes, with a minimum of 2,000 m. The load carried, inclusive of crew, etc., had to be 200 kg. The competitor reaching the greatest height in the 40 minutes allowed was awarded 20 points, the other competitors a smaller number of points at the rate of 1 point less for each 100 m. reached within the time limit. Two Breda's, piloted by Meleri and Colombo respectively, received the full number of 20 points, their altitude in 40 minutes being 5,500 m. (18,000 ft.).

Landing Test.—This test, which appears to have been of a fairly useless character, consisted in bringing the machine to a standstill in the shortest possible run, a maximum of 10 points being awarded. Unless the equivalent of a fairly high obstacle had to be cleared, which does not seem to have been the case, the merit of short pull-up is not altogether obvious. The best results in this test were obtained by the Macchi M.70 piloted by Agello, who brought his machine to a stop in 50 m.

"Touring Qualities."—These included the usual features of comfort, wing folding, parachutes, non-stalling and non-spinning devices, and so forth. A maximum of 27 points could be awarded for "Touring Qualities," and the highest number of points, 26, went to the Breda 15 piloted by Aime, while next best, 25 points, went to Cotichini on another Breda 15.

The number of points awarded to individual competitors in the various tests, etc., are given in our table, which shows also the handicap allowances, in minutes, which resulted from the point allocation in the technical tests.

PRIVATE FLYING AND CLUB NEWS

MANCHESTER—LIVERPOOL AIR RACE

FROM THE HOOTON AERODROME

By ALAN GOODFELLOW

SATURDAY, 2.30 P.M. The conditions for the race are by no means good: visibility here is certainly not more than two miles and the clouds are only at 700 ft. Eckersley, on Avian (Hermes) BX, has scratched on account of the bad conditions which he found inland when flying over. This leaves four entries from Liverpool as against only three from Manchester, as the entries of Dobson and Cantrill have both been refused by the organisers.

The starting times are shown in the programme as follows:

				hr.	min.
G-EBMQ	Moth (Cirrus II)	A. C. Mills	Manchester	0	0
G-EBXX	Avian (Cirrus II)	C. B. Crawshaw.	Liverpool	1	02
G-EBWK	Avian (Cirrus II)	R. H. Thornton	"	1	02
G-AAGR	Avian (Cirrus III)	E. Cohen	Manchester	3	59
G-AABO	Moth (Gipsy I)	T. H. Naylor	Liverpool	6	23
G-AABA	Moth (Gipsy I)	J. B. Allen	"	6	23
G-AAWI	Avian (Hermes)	R. F. Hall	Manchester	13	43

At the last moment MQ is made to start 54 sec. later owing to having stub exhausts, and WI 2 min. later on account of carburettor modifications. In consequence, BA displaces MQ as favourite for the race.

The course, Hooton-Woodford-Barton-Southport-Huyton-Hooton, is just over 100 miles in length, and the start is timed for 3 p.m. The course map shows that there are several bad bits on the course, notably between Barton and Wigan and over the Mersey Estuary, which must be traversed diagonally at its widest part on two occasions.

The start actually takes place nearly half-an-hour late, but nobody minds very much, for this is a purely sporting event—probably the most sporting air-race of the year. There are no cash prizes. Moreover, in the case of the Lancashire Aero Club, they cannot even hope to recover that cost by holding a pageant in connection with the race, as the control is at Barton. Yet two club machines and four private owner members' machines have been entered.

The only excitement at the start is over Mr. Allen, flying the Gipsy Moth presented to the Liverpool Club by Lord Wavertree. He starts his first turn before reaching the boundary line of the aerodrome and it is touch and go whether he is disqualified or not. Eventually the umpire decides in his favour, which is fortunate for him as things turn out. Reports from Woodford and Barton indicate that the machines are still in their order of starting, but that Allen is more than making up his handicap. Hall, on WI, is also catching up fast, but hardly fast enough to win. He has averaged over 115 m.p.h. to Barton, as against 84.5 m.p.h. by Mills on the limit Moth.

Meanwhile the 7,000 spectators at Hooton are being kept amused and interested by a number of events, which are ably explained both by wireless and in the excellently got out programme. Aerobatic demonstrations are given by F/O. Snaith, and Flt./Lt. Comper on the Comper Swifts fitted with Scorpion, Salmson and Pobjoy engines. The performance of this aircraft with the Pobjoy engine is most impressive, the top speed is said to be over 125 m.p.h. and the climb well over 1,000 ft. per minute. Mr. Clapham, who is succeeding Mr. Allen as instructor to the Liverpool Club, also does some crazy flying on a club Avian. The joy-riding

aircraft of Aviation Tours, Ltd., and the Lancashire School of Aviation, Ltd. (five all told, including the 14-seater Handley-Page), are kept most profitably busy.

Within a few yards of the crowd Anti-Fyre, Ltd., are giving a most interesting and convincing demonstration of their pistol type fire extinguisher. On the polo-ground motor-cycle surf-board races are providing great entertainment and the crowd is loud in applause as the "boarders" take the most tremendous turns, only to run on unhurt, and get on their boards again to continue the race. It is great sport and undoubtedly the most popular motor-cyclist is "Rusty Williams, holder of record for the 'Amami' Speedway (Friday nights!)." Shortly after 6 p.m. the competitors in the inter-city air-race complete the course and there is great joy in the Liverpool camp as Mr. Allen crosses the line, a comfortable winner, on the Gipsy Moth G-AABA. He has averaged over 103 m.p.h. throughout. The Manchester contingent raise a counter-cheer as Mr. A. G. Mills, flying the old Cirrus Moth G-EBMQ, presented to the Lancashire Aero Club by Lord Wakefield nearly five years ago, comes in a good second. He is closely followed by Mr. Naylor, last year's winner, on his Gipsy Moth G-AABO. Next comes another Lancashire Aero Club machine, Hermes Avian G-AAWI. Mr. Hall has easily put up fastest time for the race, but the extra two minutes handicap have robbed him of victory. Thornton, on WK, is fifth, Crawshaw, on XX, is sixth. A few minutes interval and Cohen, on GR, completes the finishers. For the second year running Liverpool has won both the Cardiff Trophy for the winner and the Reynolds Trophy for the team prizes. The handicapping has been very good on the whole, though it seems rather to have favoured the Moths as against the Avians—perhaps as the result of the King's Cup Race!

Just one point in connection with the race. The regulations stated distinctly that no pilot was to cross the finishing line below 200 ft. Actually only two pilots, Mills and Cohen, crossed it at anything like that height. It seems time that organisers of air-races should make up their minds either to enforce their regulation rigidly or should accept the view that in air racing, as in motor-racing, the winner is usually the man skilful and daring enough to take risks which the other competitors have not done. At present, safety regulations are made, but not enforced, which is unfair to the competitors and bad for the sport generally, even though the result of the race may not be affected.

After the finish of the race, the programme tailed off considerably. The "all ages" race was abandoned, the balloon bursting was rather spoilt by low clouds, though the Comper Swift "bagged the bunch" at the first attempt, and blowing up of the fort gave the impression that the bombs dropped must have had remarkably long "delay action" fuses! In spite of this, however, the general programme was very well thought out and arranged, and the first 3½ hours of it at any rate might well serve as a model to organisers of how to run a really entertaining meeting without undue expense.

In the evening a farewell supper was held at the aerodrome



THE INTER-CITY RACE.

Some of the machines lined up for the start.



REWARD: Flt.-Lt. J. Allen receiving the trophy from Sir Wm. Cundiff at Hooton

in honour of Mr. J. B. Allen who has gained the affection of all his pupils by his very able and patient work as an instructor. Mr. Allen has been selected for the post of pilot to the Duchess of Bedford a well-deserved appointment in which he will carry the good wishes of his many friends.

THE RACE—Explained by J. Leeming

THIS race is held annually for a trophy presented by Sir William Cundiff, an ex Lord Mayor of Manchester. It is open to privately-owned or club-owned aircraft only. Entrants, pilots, and passengers must reside within 25 miles of the city they represent, and no commercial firm may enter. Aeroplanes are to be absolutely standard and no special tuning or streamlining is allowed; they must be exactly in the same condition in which they are usually flown. Each machine must carry full load, *i.e.*, two seaters will carry passengers each weighing not less than 150 lb.

The handicapping was done by Capt. Dancy and Mr. Rowarth, and is based on estimated performance. The winner holds the trophy for one year on behalf of the city he or she represents.

The entries of R. H. Dobson and J. C. Cantrill were refused as it was decided their machines were "commercially owned." P. T. Eckersley scratched; he had been so busy winning cricket championships he had never practised over the course and the visibility was poor. Anderson scratched for a reason unknown and Reynolds because his machine had not been delivered.

At Hooton and Barton the weather was fairly good, a light N.W. wind of 15 m.p.h. and visibility about 3½ miles.

The race resulted in Liverpool winning, the times being:

	Left Hooton.			Arrived Hooton.			Average Speed m.p.h.
	h.	m.	s.	h.	m.	s.	
MO	15	20	00	17	28	28	90
XX	15	21	02	17	32	07	85.6
WK	15	21	02	17	32	12	85.5
GR	15	23	59	17	35	09	85.5
BO	15	26	23	17	28	30	97.9
BA	15	26	23	17	28	01	98.7
WI	15	35	00	17	29	29	111.7

Mills the second man, was flying an old Mark I Moth, recently crashed and entirely rebuilt by Northern Air Lines. In fact MQ only left the Barton workshops two days before the race. Cohen's engine seemed to be not giving its best, and Hall could not make up his handicap. The winner, J. B. Allen, flew in masterly style and must have steered an absolutely straight course; his machine, as did also Naylor's, appeared to be functioning perfectly.

THE HAMPSHIRE Aeroplane Club held a garden party on Sunday afternoon, August 31. By 4 p.m., quite a respectable sized crowd had arrived and the chief business of the day seemed to be taking up passengers for their first flight. There were all the club machines on this work and their pilots certainly earned their keep during the afternoon.

As was announced last week an attractive programme had been arranged with many novel features, but owing to some unforeseen circumstances this had to be somewhat modified. The crowd, however, did not seem to be put off by this fact and when they had finished their joy-rides they joined whole-heartedly in the band of courageous spirits who were fighting myriads of wasps in an endeavour to get some tea!

There were several interesting machines for them to see besides the club's own machines, as the fine afternoon brought quite a fair number of aerial visitors, including an all-metal demonstration Moth with a "Gipsy II" engine; a new Desoutter II ("Gipsy III"), with the modified mass balanced ailerons which have made such a difference to this machine and have quite eradicated the previous propensity they

had to flutter at high speeds, this model has, in fact, been dived at over 200 m.p.h. with perfectly satisfactory results; a beautiful gold and red Puss-Moth ("Gipsy III"), belonging to the Shell Co., and showing the staunch way in which the petrol and oil companies support these meetings, there was also the new Sports Avian ("Hermes") of the Prattis Co.

The programme included dancing at the club-house during the evening which was, no doubt, enjoyed by all the indigenes as the majority of the visiting aircraft left before dusk.

Besides the club aircraft, that other local product the Spartan Arrow was much in evidence, and flown by Col. Strange and the brothers Andrews, machines of this type more than did their share of providing entertainment for the visitors.

THE NEWCASTLE Air Fête suffered from the weather, which, although locally was not exceedingly bad, was so thick to the south that only very few visiting aircraft succeeded in arriving.

Flt.-Lt. Stainforth flew above the mist all the way from London at about 7,000 ft., and was allowed to take part in the race. F.O. Leech came through on a Desoutter on the Friday, and later in the evening that little heard of but nevertheless fine pilot, Miss Slade, managed to get her Moth through.

Naturally, under these circumstances, the programme had to be altered accordingly, but with the help of the local machines and those of Miss Leathart and Mr. Runciman, of Cramlington Aircraft, the public were regaled with a satisfactory afternoon's flying, and it is hoped that the Club also found the results satisfactory. The spectators numbered some thousands, and the race created quite a considerable amount of enthusiasm.

Many of the items on the programme had to be cut out owing to machines not having arrived, and the lighter events were concentrated upon. "Bombing the car" was most successfully carried out, so much so that a press photographer who was presumably trying to emulate FLIGHT's photographer by getting close enough to get *real* photographs, was the recipient of a direct hit. It is to be hoped that his brethren also secured direct hits—with their cameras—of the episode!

Flt.-Lt. Stainforth succeeded in winning the arrival competition for the first visiting pilot crossing the line after noon, which was rather a fine effort in view of his trying flight up, but it was unfortunate that he was disqualified in the race after coming in first owing to a misunderstanding which led him inside one of the corners.

The Newcastle Race

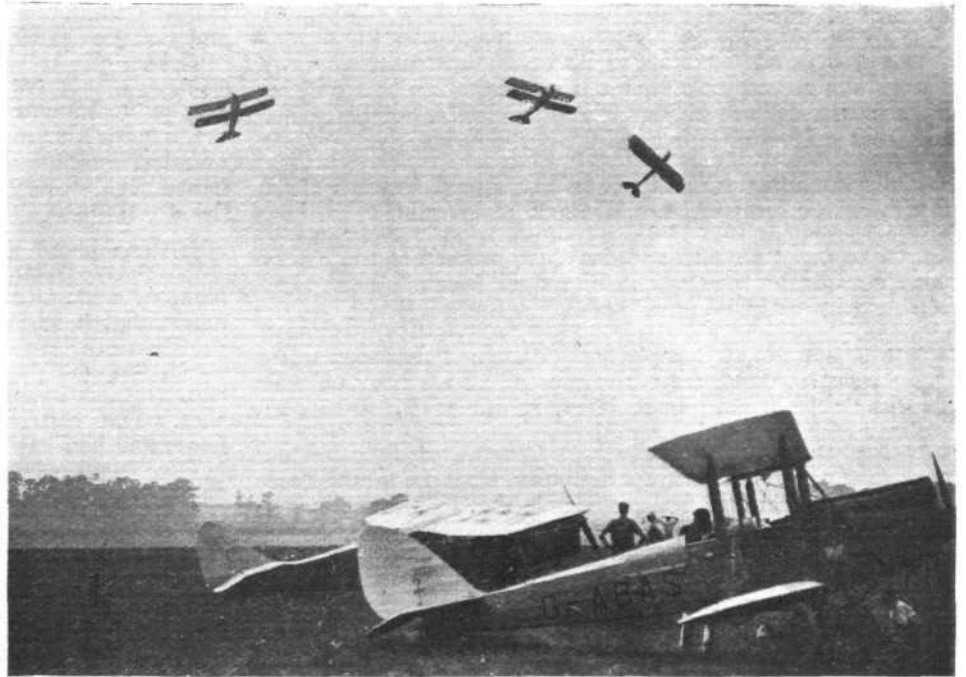
Aircraft and Engine				Starting Time	Finishing Time	Average Speed, m.p.h.	Placing
				m. s.	m. s.		
W. Runciman (G-AAWW)	..	..	Klemm 3 str. (Cirrus III)	00 00	17 43	81½	3
Newcastle Club (G-EBWI)	..	..	Moth (Cirrus II)	01 03	18 01	88½	4
H. Leech (G-AAVO)	..	..	Desoutter I (Hermes)	02 47	17 27	102	1
I. Irving (G-AADA)	..	..	Moth (Gipsy I)	03 17	17 42	104	2
G. Stainforth (G-AAXH)	..	..	Avian Sports (Hermes)	03 44	17 16	111	DIS

BEDFORDSHIRE AERO CLUB OPENING

THE BEDFORDSHIRE Aero Club profited by the bad weather for their meeting at a field at Goldington (we cannot call it an aerodrome!), east of Bedford, on Saturday, August 30, as many of the visitors would not have been there had they been able to get through to Newcastle, Liverpool or Manchester. As it was, some 32 aircraft arrived during the afternoon, and the only regret was that the public failed lamentably to show an equal amount of air-mindedness. Evidently they are "merely gas-bag minded" in Bedford, and such insignificant things as light aircraft do not raise any enthusiasm in their hydrogenous hearts.

It was unfortunate, perhaps, that Goldington should be so close to Cardington as possibly the meeting was over-shadowed by this latter place of attraction, but the fact remains that when either airship shows its nose outside the sheds, the whole place is one mass of sightseers whereas, on Saturday, there were very few indeed. However there is no doubt about the keenness of the club members, and under the guidance of the Northampton Club they are sure to instil much enthusiasm into their townspeople before they are very much older. They are fortunate in having such a good sportsman as Mr. P. M. Stewart for their President and with him to help them through the initial stages they should succeed in firmly establishing the club which their indefatigable secretary, Mr. C. Stelfox, has been trying to bring into being for so long past.

Mr. Stewart opened the proceedings with a short address into the microphone and this was relayed and broadcast by the Siemens demonstration van. This firm is evidently go-ahead and up to its work, as besides managing to broadcast the speech with a complete lack of distortion, they stepped into a breach in a most creditable and humorous manner. After the Presidential address came to an end the lack of public was



A CLUB FORMATION.

The Northampton Club finishing their demonstration of formation flying with a neatly executed "Prince of Wales Feathers." In the foreground are two of the latest D.H. demonstration machines, a Puss-Moth and a metal Moth.

(FLIGHT Photo.)



THE OPENING CEREMONY.

Mr. P. M. Stewart, the President, declares the Club open. (FLIGHT Photo.)



immediately manifest in the lack of applause, but the Siemens van was not to be done by this and with hardly a moment's pause the loud speaker broke forth into the hearty and full throated cheering of a large crowd, and finished with an enthusiastic rendering of "For He's a Jolly Good Fellow." The President, though embarrassed, stood it well and we imagine that this van with its enlightened operators will be in great demand at the forthcoming general election.

The programme had to be considerably modified, but even so the Brothers Linnell with their friend Tyzack carried through an interesting programme in the manner they have made so popular at Sywell.

There were demonstrations of different machines, aerobatics in open and closed aircraft, and several comic events. Altogether, it was a cheery little party enjoyed by the large number of visiting pilots and it is to be hoped that the club's next effort will be better backed up by their local populace.

The weather, though fine was by no means ideal, as the visibility was very poor; this did not, however, greatly impede the flying over the field, and as the day went on it improved greatly.

LEAVEN.

The Northampton Club's exuberant spirits were proof against even the dire results of bombs which subsequently blew them out of their "wagon" and mutilated portions of their anatomies.

(FLIGHT Photo.)

THE NOTTINGHAM Flying Club cordially invite all private owners and members of flying clubs to come to their air fête at Tollerton on Saturday, September 13.

The programme will start at 2.30 p.m. and continue until 5 p.m. An arrival competition (zero hour, 12 noon), and an air race over a course of 30 miles, will be held, and all visiting pilots are welcome to compete. Luncheon, tea and refreshments will be available.

Pilots intending to go to the fête, should forward their entries on the form to be obtained from the club or N.F.S., before September 10. Hotel accommodation in Nottingham can be arranged for pilots who wish to proceed to the Yorkshire meeting at Sherburn-in-Elmet on the following day; if required this should be stated on the form.

THE MEMORIAL Hospital made a good deal when, on Saturday, August 30, an impromptu air meeting was held at Sholden, near Deal, Kent, in aid of the Deal and Walmer War Memorial Hospital.

Messrs. Stammers, Tapper and Travers of the London Aeroplane Club, worked continuously from noon till dark bombing Mrs. Travers and Dr. Hall (the organisers) in the former's ancient automobile, bursting balloons and carrying passengers, of which there was a willing and plentiful supply. Capt. C. P. Davis, Mayor of Deal, and other prominent citizens connected with the hospital supported the meeting which went with a swing from beginning to end. The field used, which has excellent approaches, was lent by Mr. Gilbert Elliot, of Sholden, and residents are now discussing the possibility of acquiring a municipal aerodrome.

An item of interest in connection with the London Club is that their second instructor, Mr. Matthews, is shortly leaving for a new job. The club wishes him the best of luck and will, we understand, be expressing their appreciation of his services in a tangible form.

MR. G. S. KEMP, the instructor to the Newcastle Aero Club, has resigned his position with the club. He ends his duties this week, and Mr. F. P. J. McGevor is to take over next week.

LLANDUDNO AERIAL WEEK-END.—Pilots intending to visit Llandudno, North Wales, for the Display, Races and Party on September 20, are specially requested to land on the aerodrome not later than Friday, September 19.

ENTRIES FOR THE AIR LEAGUE CUP

Entrant.	Pilot.	Machine and Engine.	
Capt. Kirby ..	Capt. Kirby ..	Arrow (Gipsy II) ..	G-AAWZ
A. E. Chambers ..	H. T. Andrews ..	Spartan 3-str. (Gipsy II) ..	G-ABAZ
W. L. D. Roberts ..	W. A. Andrews ..	Arrow (Hermes) ..	G-AAWY
Leicestershire Ae. C.	J. C. Cantrill ..	Avian (Hermes) ..	G-AAWI
E. Cohen ..	E. Cohen ..	Avian (Cirrus III) ..	G-AAGR
Miss A. Johnson ..	— ..	Moth (Gipsy I) ..	G-AAAH
W. L. Kuncelmann ..	W. L. Kuncelmann ..	Klemm 3-str. (Cirrus III) ..	G-AAWW
Capt. F. E. Guest ..	Miss W. Spooner ..	Martlet (Gipsy II) ..	G-AAYZ
L. S. Dawson ..	L. S. Dawson ..	Civilian Coupé (Hornet) ..	G-AAIL
Capt. E. W. Percival ..	Capt. E. W. Percival ..	Hendy 302 (Hermes) ..	G-AAVT
Miss E. Slade ..	Miss E. Slade ..	Moth (Gipsy I) ..	G-AAIW
J. Wellworth ..	J. Wellworth ..	Widgeon (Genet II) ..	G-EBRQ
A. Jackaman ..	A. Jackaman ..	Puss-Moth (Gipsy III) ..	G-AAVE
H. R. Law ..	H. R. Law ..	Widgeon (Cirrus II) ..	G-EBRN
London Ae. C. ..	H. G. Travers ..	Moth (Gipsy I) ..	G-AABN
Flt.-Lt. T. Rose ..	Flt.-Lt. T. Rose ..	Bluebird (Hermes) ..	G-AACC
C. S. Napier ..	C. S. Napier ..	Widgeon (Gipsy I) ..	G-AADE
Miss W. Brown ..	Miss W. Brown ..	Avian (Cirrus III) ..	G-EBVZ
B. S. Allen ..	B. S. Allen ..	Avian (Hermes) ..	G-AAVU
W. H. Peake ..	F. A. Thorn ..	Avian IV (Hermes) ..	G-AAHJ
Newcastle Ae. C. ..	— ..	Moth (Cirrus II) ..	G-EBQV
J. D. Irving ..	J. D. Irving ..	Moth (Gipsy I) ..	G-AAAD

The hotel where most of the pilots will stay is the Grand Hotel, Llandudno. Dancing, swimming, fishing, boating, and excellent theatres are available.

The aerodrome is about 1 mile from the town on the main Conway-Llandudno Road, near the main L.M.S. Railway line, and will be found easily.

Northern Air Lines, Air Port of Manchester, Barton, Lancs., who have organised the week-end, will be glad to arrange rooms, etc., for any intending visitors and to supply maps of the aerodrome.

THE Auckland Aero Club (N.Z.).—The past year has proved a most successful one from every point of view for the Auckland Aero Club. The committee stated in their report that it was entirely satisfied with the progress made. At the end of the financial year there were 550 members, of whom 95 were pupils and 43 pilots. During the year the club trained 24 pilots, and eight more qualified early in May. The club's machines had registered 1,566 flying hours and had carried 1,373 passengers.

The balance-sheet showed the club's finances to be in a particularly strong position, and the working profit for the year was £386.

THE HANWORTH Opening Anniversary. On Saturday evening, August 30, Hanworth Club held their anniversary dinner and dance.

Some 80 persons were present, and the evening was a thoroughly enjoyable family party.

Hanworth as a Club has now been going just over a year, and in spite of many vicissitudes has made exceptional progress. N.F.S., rather naturally, set out having to combat a good deal of ill-feeling over the flying club question, but on the whole things have gone fairly smoothly and are now becoming stabilised.

At Hanworth itself, a very great deal of flying had been done, as the following figures will show. Last month for instance, 24 "A" licences were obtained by the members, while another 22 went solo. During the year they have flown some 7,500 hr. The club pupils have secured 125 "A" licences. At the present time there are 142 members holding "A" licences and 38 private owners of aircraft. These figures of course only refer to the instructional and club side; the commercial organisation at Hanworth is entirely separate and also has a very large total of flying hours in all weathers to its credit.

Entrant.	Pilot.	Machine and Engine.	
W. L. Everard ..	Flt. Lt. S. David ..	Puss-Moth (Gipsy III) ..	G-AAXM
W. L. Everard ..	W. B. Medcraft ..	Moth (Gipsy I) ..	G-AAUH
C. P. Hunter ..	C. P. Hunter ..	Avian (Hermes) ..	G-AAWH
J. de C. Ballardie ..	Col. L. A. Strange ..	Spartan (Hermes) ..	G-AAGN
Leicestershire Ae. C.	J. T. L. Baxter ..	Moth (Gipsy I) ..	G-AASM
Leicestershire Ae. C.	H. P. Lavender ..	Moth (Gipsy I) ..	G-AAIF

A further entry is expected from the Northamptonshire Ae. C. Entries for the **GROSVENOR CUP** the same as the above with the following addition:

Desoutter Air-craft Co.	—	Desoutter (Hermes) ..	G-AAVO
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ENTRIES FOR THE S.B.A.C. CHALLENGE CUP

Entrant.	Pilot.	Machine and Engine.	
Newcastle Ae. C.	—	Moth (Cirrus II) ..	G-EBQV
London Ae. C. ..	O. J. Tapper ..	Moth (Gipsy I) ..	G-AABN
Lancashire Ae. C.	J. C. Sellars ..	Avian (Hermes) ..	G-AAWI
Leicestershire Ae. C.	H. P. Lavender ..	Moth (Gipsy I) ..	G-AAIF
Leicestershire Ae. C.	J. T. L. Baxter ..	Moth (Gipsy I) ..	G-AASM
Northamptonshire Ae. C.	—	—	Not known



BEDFORD : The line up of demonstration machines, showing Metal Moth (Gipsy I), Puss Moth (Gipsy III), Desoutter II (Gipsy III), Moth (Cirrus III), Avian (Hermes), Autogiro (Genet Major). (Flight Photo.)

GLIDING

THE RHÖN COMPETITIONS

By

J. R. ASHWELL-COOKE

THIS is the eleventh year in which sail-plane competitions have been held at Wasserkuppe, in the Rhön Mountains, Germany. The Rhön is the hub of the gliding movement in Germany and, in fact, of the world, and so great is its reputation that each summer all the latest and best sail-planes and pilots foregather there for the various competitions, which are spread over a period of 14 days. Each year a distinct improvement in the design of machines is shown, and better performances are attained.

Representatives of the British Gliding Association were present at the invitation of the Rhön-Rossitten Ges., in order to obtain technical and other information for the furtherance of the movement in Great Britain. As it was impossible for all to devote the whole fortnight to this purpose, the party was split up into relays. Those present from England were Sir Sefton Brancker, Col. the Master of Sempill, Sir Gilbert Walker, Mr. Gordon England, Capt. Latimer Needham, Mr. Ashwell-Cooke, F/O. Buxton, Mr. Hiscox, Dr. Whitehead Reid, and Mr. Waplington (secretary of the B.G.A.). Group Capt. Gossage, British Air Attaché in Berlin, was present on behalf of the Air Ministry, whilst Capt. Casparuthus represented South Africa.

Saturday, August 9, the opening day of the competitions, was devoted mainly to the checking of all the machines for airworthiness and stability. This work was carried out by the Technical Commission of the Rhön-Rossitten Ges., and out of 28 arrivals, 18 were certified as airworthy for all conditions, and two for flying restricted to small-velocity winds.

One of the latter was the "Meinegen," which came to grief during the competitions, and represents an attempted advance in sail-plane design, with a cantilever span of 72 ft. (22 m.). The main plane is built on the multi-spar principle for lightness, and the wing suffers considerable deflection in gusty winds. Several competing machines had already proved their efficiency in previous competitions, these included the "Wien," piloted by Kronfeld, well known in England; the "Kakadu," considered the best in 1929; the "Schloss Mainberg" and the "Darmstadt II," both with single-spar cantilever wings of elliptical-plan form, the "Darmstadt," also having the rudder and ailerons coupled



Gliders soaring over the Monumental Eagle erected to the memory of those who have lost their lives while gliding on the Wasserkuppe.

for simultaneous operation; the "Luftikus," with a very narrow fuselage, which performed well last year; the "Dresden 8," a two-seater of very heavy construction containing watertight compartments in the fuselage and wing tips, for alighting in the Danube—this being, apparently, quite normal with the Dresden Club owing to their gliding ground being close to the river; and the "Aachen," a large semi-cantilever machine of fairly simple construction and with the second largest span, 65 ft. (20 m.), which also, unfortunately, met with an accident, but not before it had shown itself to be one of the most efficient soaring machines present. Perhaps the most interesting competitor was the "Fafnir," designed by Herr Lippisch to supersede the "Wien," and built in the workshops at Wasserkuppe. The

fuselage and tail unit of this machine are similar to the "Wien," but instead of the main plane being connected to the fuselage by a "neck," the cantilever wing is fixed directly to the top of the fuselage, and rises from it with considerable dihedral for half the span, after which it becomes horizontal. This gives the appearance of a sea-gull, the effect being increased by the two small observation apertures for the pilot, who is otherwise entirely enclosed. Following early trials this machine was thought to be a failure, but after some modification of the fairing between the fuselage and wings, it showed itself to be exceptionally efficient as a soaring



The tailless machine of the R.R.G. being tried out as a glider.

machine and—most manoeuvrable—probably the most manoeuvrable machine present.

The chief prizes were awarded for height, greatest distance in a straight line, and circular flights over a fixed course, these being open to all pilots during the whole period of the competition. In addition, there were daily prizes divided into Senior and Junior sections, the conditions for which were drawn up daily, according to the existing weather conditions. Most machines took the air as soon as certified airworthy, and five flights of over an hour's duration were made. The daily prizes were for flights of 30 min. duration, Senior, and 15 min. Junior, the winners being the first to complete these times. Kegel on the "Kassel" won the Senior with 35 min., and the Junior was won later in the day under more favourable conditions by Hemmer on the "Schloss Mainberg," with 1 hr. 9 min. On Sunday, the second day, the Senior prize was for a flight of 15.5 miles (25 km.), there being a fairly strong west wind, which is the most favourable direction at the Wasserkuppe. Several machines took off about noon, but none could gain sufficient height to set off across country, and just before 2 p.m. Kronfeld on "Wien" took off, quickly gained a height of about 2,000 ft. (610 m.), and departed in a northerly direction. An hour later word came through that he had landed at Berka, 32.5 miles (52 km.) away, at almost the same spot where Nehring landed in 1928, having accomplished what was then a world's record. The Junior prize for a duration of 2 hr. was won by Ruck in a "Professor" (the standard soaring type).

On Monday the Wasserkuppe was visited by the weather for which it is famous—namely, wet and completely enveloped in dense cloud. In the words of Herr Lippisch, the designer for the R.R.G., "At the Wasserkuppe three-quarters of the year is winter, and the other quarter bad weather." The clouds lifted on Tuesday morning, and as there was still a fairly high wind, Kronfeld took advantage of it and set off towards the Kreutzberg, in an attempt to win the circular-flight prize of 1,500 marks. The Kreutzberg is a hill, 3,045 ft. (928 m.) high, 75 ft. (23 m.) lower than the Wasserkuppe, and is 9.5 miles (15 km.) to the south, with a lower hill, the Himmel-darlb, lying between them. Kronfeld gained the latter, where he circled to gain greater height, and then set off for the Kreutzberg, which he soon reached. The return journey was by no means as simple, but he took a more easterly route and slowly fought his way back, finally landing at his starting point. This constitutes a world's record, and was equalled in the second week by Grönhoff, flying the "Fafnir," the prize money thus being divided. After tea, Kronfeld set off once more on a distance flight, landing at dusk beyond Meiningen, a distance of 28.5 miles (46 km.), winning on the way the daily prize for height with 1,200 ft. (366 m.). The Junior duration prize was won by Starck on the "Darmstadt" with 5 hr. 19 min., and Bedau on the "Luftikus" second with 3 hr. 17 min.

Kronfeld distinguished himself again the following day with a fine flight of 102 miles (164 km.), to Hof in Bavaria, 2 miles (3.2 km.) from the Czech-Slovak frontier. This flight was made on the "cold front" of a line squall. Hurtig followed Kronfeld on the front of a second line squall, and landed at Bischofsroth 30.5 miles (49 km.). No flying was possible on the next day, Thursday, owing to low cloud, and although the clouds were higher on Friday, it was by no means a suitable day for soaring, and was accompanied by very high and gusty wind reaching at times 50 m.p.h. (22.4 metres per sec.). The only two machines considered safe in such conditions were the heavy "Dresden" and the "Schloss Mainberg." The former, flown by Muschlick, soared for over an hour, whilst Hemmer, flying the latter, attempted to win the daily prize for a 3 mile (5 km.) out and return flight, but failed to do so by 0.12 miles (0.2 km.). On Saturday, August 16, the camp was enveloped in very low cloud, and flying was impossible throughout the day. Dr. Georgii, with his habitual kindness, took this opportunity to show the

British contingent, which now numbered eight, around the camp. All were impressed by the wonderful organisation which has been built up, embracing as it does almost every branch of aeronautics. One very interesting feature which was noted was the amount of research work which is carried out with flying models, prior to the building of an experimental type, and it seems apparent that the gliding movement in England should co-operate more closely with the model makers. One of the most interesting machines seen in the hangars was the tail-less machine designed by Dr. Cooper, the total weight of this machine, which has almost no sweep-back, is only 98 lb. (44.5 kilos.), whilst another unusual detail is that the two wing-tip rudders, which are practically horizontal, and are operated by Arens Controls, are designed to split into two for use as air brakes, in a similar manner to the ailerons of the Westland Pterodactyl.

The next day, Sunday, August 17, was gloriously sunny, with an average windspeed throughout the day of 26.8 m.p.h. (12 metres p. sec.), and flying commenced just before noon with the launching of the "Fafnir," flown by Grönhoff, the official test pilot of the Rhön-Rossitten Ges. One daily prize was for duration and the competitors in the order of launching after Grönhoff were Mayer on the M.II, designed by himself, and built by Aachen University Students, a "Poppenhausen" 2 seater, flown solo by Van Husen, the Munich University "Kakadu" and several others. The competition was won by the "Poppenhausen," which landed after 8 hr. 37 min. with Mayer only 9 min. behind. It is interesting to note that although duration is not regarded very seriously at Wasserkuppe, daily prizes are offered for it with a view to encouraging junior pilots to increase their experience. The cross-country prize was won by Kronfeld "Wien" who landed 11 miles (17.9 km.) from the starting point. Some excitement was caused during the afternoon by the "Darmstadt," a single spar cantilever machine of 47 ft. (14.3 m.) span, doing three complete turns of a spin with a loss of height of only 260 ft. (79 m.). The machine spun on an almost vertical axis, but the pilot came out satisfactorily, and continued his flight for a further two hours,



Herr Kronfeld, who is expected to be the winner of main competitions this year.

during which time no less than eleven other machines were soaring consistently, and the strict observance of traffic rules became very necessary.

Weather conditions continued fair for the next day, Monday, but with only a very gentle breeze, and the comparative efficiency of the advanced sail-planes was much more amply demonstrated than on any previous day. The first machine took off at about 2 p.m., and was Meiningen on the "Startenberg," who forced-landed after 17 min., and was quickly followed by the Munich "Kakadu" flown by Hurtig, who beat it by 10 min. Mayer flying his M.II then proved its efficiency by a very fine flight of 2 hr. 5 min. whilst its controllability was obviously superior to all its rivals except perhaps Bedau on the Berlin "Luftikus" who flew for 56 min. Although not a winner, the consistently good flying of this machine and its pilot Bedau has been a feature of the meeting. The only other competitor was Kronfeld who landed after 32 min. The other daily competition was for a closed circuit flight of 3 miles (5 km.). The only two competitors were Kronfeld "Wien," and Mayer "M.II", and both appeared to find it extremely difficult in such a light wind. Kronfeld gained height quickest and set off, but Mayer was soon on his tail. Both seemed to be in difficulties near the finish, and Kronfeld forced landed the "Wien" about 20 sec. after completing the circuit, damaging the nose of his machine. Mayer was still more unlucky, landing among some rocks, sweeping off both wings, and breaking the fuselage in three sections. The pilot, however, was unhurt. On Tuesday morning a new prize, a week's visit to London, was announced as presented by the B.G.A. and the British contingent at Wasserkuppe, for a cross-country flight of 37.3 miles (60 km.). Owing to lack of wind no flying was attempted throughout the day. As far as the competition was concerned, Wednesday was also a blank day, owing to entire absence of wind. From

a spectators' point of view, however, it was far from dull, as the latest R.R.G. tail-less machine, which is to be eventually fitted with a 20-h.p. engine, had been awaiting its glider trials for some days, and Grönhoff was selected to make the test flights. Shortly after lunch the machine was taken to a level piece of ground, and loaded with ballast equivalent to the engine weight, and Grönhoff got into the machine. At first only straight glides were attempted, but as soon as it appeared that the machine was stable, it was moved to a gentle slope, and here several very satisfactory glides were made, followed by some gentle turns. Herr Lippisch was completely satisfied with the machine, and it was therefore put away after a concluding down-wind glide. In the early evening Dr. Whitehead Reid arrived on his "Widgeon."

On Thursday morning, general conditions had improved, though there was still only a little wind. The senior-daily prize was for a closed circuit flight of 13.7 miles (22 km.), and the junior for duration. The former was one of the most interesting competitions of the meeting as, although several attempts were made in the morning to complete this flight, it was not achieved until after 4 p.m. Kronfeld on the "Wien" set off at about 11 a.m., and was soon followed by Grönhoff on the "Fafnir," but the latter quickly found himself losing too much height, and returned to the start point. Kronfeld, however, continued, but was forced to land about half way round the course, although he put up a great fight. The Berlin "Luftikus," flown by Bedau, also force landed whilst attempting this flight. Flying was then abandoned until after lunch. During lunch considerable excitement was caused by the arrival of a Puss Moth, flown by Mr. Pike of the D.H. School, with Sir Sefton Brancker as passenger. This was the first Puss Moth to be seen at Wasserkuppe, and it was surrounded with a crowd of spectators for the rest of the day. After supplying the latest Test Match information to the British contingent, Sir Sefton Brancker was shown round the camp by Dr. Georgii and Herr Lippisch. Flying re-commenced at about 2.30 p.m., when Kegel, flying his "Kassel" machine, set off on the across country but could not maintain sufficient height, and was compelled to land in the valley. Kronfeld, "Wien," then set off once more and after a great struggle lasting nearly 45 min., succeeded in completing the course, but force landed about 10 sec. later. Towards the evening the wind freshened considerably, and the "Kakadu" flown by Ruch, also set off on this circuit and completed it in fine style in

15 min. The junior prize was won by Mayer on a "Professor," with a duration of 2½ hr. During the afternoon when some eight machines were soaring in a somewhat restricted area along the edge of the hill, Hemmer on the "Meinegen," was shot down by Very light for dangerous flying, and contravention of the traffic regulations. Dr. Whitehead Reid left in the early evening for Frankfurt.

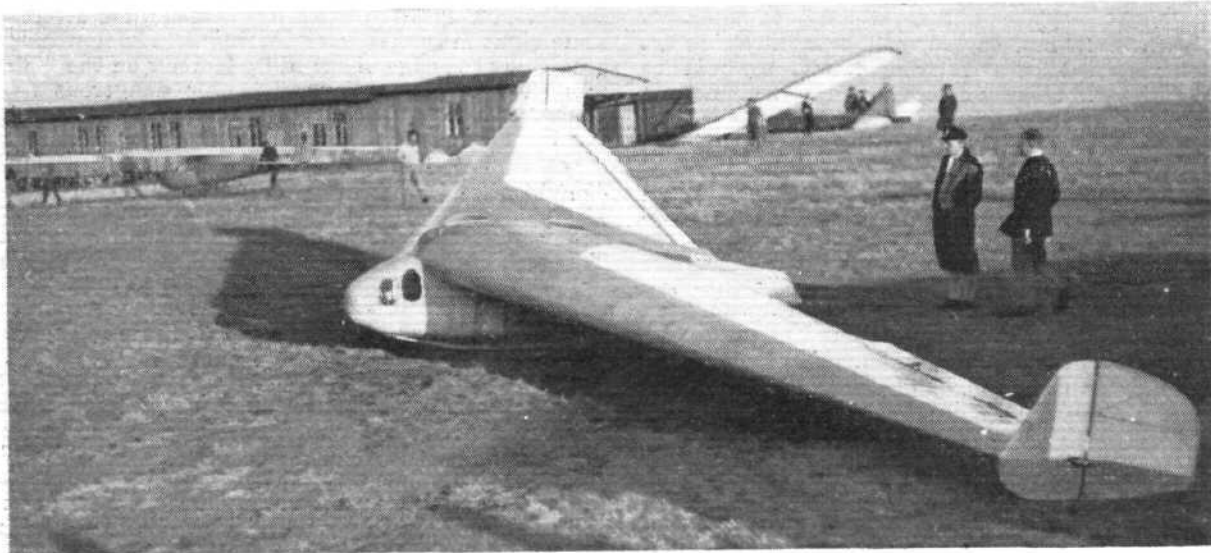
On Friday morning, there was again too little wind for soaring, and flying was abandoned until after lunch, all interest, however, was concentrated on the assembly of the newly arrived "Austria," Kronfeld's second entry. This machine is of quite revolutionary appearance, and was designed by Dr. Cooper, whose tailless machine has already been described. It has a pure cantilever wing, built up in four sections, with a total span of 103 ft. (30.5 m.); about 6 ft. (1.8 m.) below which the pilot sits in an egg-shaped nacelle, whilst the tail unit, with its twin rudders, is carried by an almost circular fuselage, which starts from just behind the pilot's head, with a diameter of approximately 11 in. (279.5 mm.), and tapers away to about 8 in. (203 mm.). The twin rudders are designed to fold inwards to the elevators for use as air brakes, when landing. Owing to the lack of time for test purposes, Kronfeld decided not to fly the machine in the competitions, but he will commence its tests immediately they are over. Sir Sefton Brancker and Mr. Pike left in the Puss Moth at about 3 p.m., just as the wind was freshening, and soon afterwards several machines, including the "Fafnir," the "Luftikus," and the "Wien," took off to compete for the daily duration prize, as all other flying was impossible in such a light wind. After about 45 min., however, the wind dropped very suddenly, and all machines except the "Wien" landed quickly, but Kronfeld continued to soar in the thermal currents, for nearly another hour, before making a voluntary landing at the start-point.

On Saturday, the last day of the competitions, the weather was again impossible owing to rain and very low cloud. The winners of the daily competitions have already been mentioned, and the official results of the main competitions are not yet available.

So ended a most interesting fortnight, from which two main points seemed outstanding, firstly that the efficiency of the machines appears to have exceeded the efficiency of the pilots, which criticism is generally accepted, and secondly the great similarity between the vast majority of machines is disappointing.

An interesting group taken at the Wasserkuppe, including Dr. Georgii, Herr Stamer, Graf Ysenberg, Col. Sempill, Mr. Gordon England, Miss Lippens, Herr Kronfeld, Herr Ursinus, Dr. Lippisch, Herr Knot, Mr. Waplington, Capt. Needham, Herr Grönhoff, Mr. Ashwell-Cooke, Mr. Buxton, Herr Siemens, Herr Hemmer, Mr. Haller, Mr. Hiscox.





Another view of the tail-less machine before the engine has been put in. This machine was only built after exhaustive tests with models, and has an estimated top speed of 110 m.p.h. The wing-tip fins and rudders are of a thick aerofoil section and also act as skids. The pilot's view seems to be negligible.

SOUTH ESSEX AERO CLUB, Gliding Section.—With pleasant memories of the previous week-end and their baptism of gliding, members of the South Essex Aero Club met at Havering on Saturday and Sunday intent on getting in the air and to come down only after having smashed all the existing records of the gliding world. That the aforesaid records are still "as you were" is certainly not due to any lack of enthusiasm on the part of the would-be record-smashers. Throughout the week-end a large number of flights were made, and, benefiting by the experience gained at previous meetings, some really good flights were achieved. Generally speaking, the control of the machine in the air was a marked improvement on that shown at the last meeting, and the club's policy of instructing the members to go slow if they want to learn quickly is proving a sound one.

Just before dusk on Sunday, when there was practically no wind, a number of "light-weight" members were sent up in the air, and they made some of the best glides yet achieved.

Weather permitting, meetings will be held every Saturday and Sunday, and anyone interested in the club—of which, by the way, Sir A. V. Roe and Sir Alan Cobham, K.B.E., A.F.C., are vice-presidents—should write to the Secretary, 19, The Pavement, Chadwell Heath, Essex, for further particulars.

The entrance fee is only 15s. 6d., and the annual subscription £2 2s.

SURREY Gliding Club.—On Sunday, August 24, two members of the Surrey Gliding Club, Capt. Stratton and Dr. McGlashan, made flights of over 30 sec. duration. This qualifies them for their "A" Gliding Certificates, for which application is being made.

The flights were made on the club's ground at Lockner Farm, Chilworth, near Guildford, where the club holds meetings every Saturday and Sunday, weather permitting.

Both the flights were of 33 sec. duration and were particularly good, as it was necessary to clear a 20-ft. hedge in each case. Those interested in the club should apply to the Secretary, Woodbridge Hill Gardens, Guildford.

GLIDING in Ireland.—The first Irish gliding club has just been formed in Ulster, under the name of the Belfast Gliding and Aviation Club. The subscription has been fixed at 10s. per annum, and there are already over fifty members. Several air-minded people near Belfast have kindly offered their fields as gliding grounds and these offers are now receiving the attention of the committee. It is expected that the first glider will be available for use in the near future.

Miss Johnson at Brighton

MISS AMY JOHNSON landed at Shoreham Aerodrome, on Saturday, August 30, for her visit to Brighton. She was welcomed by all the local dignitaries, including mayors, mayoresses, and their deputies from Brighton, Hove, Shoreham, and Worthing. During the afternoon the crowd, which numbered many thousands, were entertained by a small flying display arranged by the Southern Aircraft Co., and Messrs. Miles and Pashley were kept very busy taking up joyriders. Earlier in the week she had paid a visit to Bournemouth.

A Private Aerodrome for the King

ACCORDING to the *Manchester Guardian* the King is having a private aerodrome constructed in the grounds of Sandringham. The work has already been started. The aerodrome is intended for the use of the Prince of Wales and the King's other sons, and also for visitors to Sandringham.

The entire cost of the aerodrome, totalling several thousands of pounds, will be borne by the King personally.

The "Iris" Flight to Lisbon

THE R.A.F. Iris flying-boat on her flight from England left Lisbon, for Gibraltar, on August 28. Together with many Portuguese, the crew were entertained at luncheon on August 27 by Mr. F. E. F. Adam, Counsellor of the British Embassy.

The Iris arrived at Gibraltar from Lisbon at 5 o'clock the same afternoon and left on September 1 for England.

Gordon Bennett Race

THE decreasing interest in the Gordon Bennett balloon race is brought out by the fact that only six balloons started on September 2 from Cleveland (Ohio) for the annual race.

These were three American, one Belgian, one German, and one French.

The weather is described as bad.

The French balloon, "Pierre Fisbach," landed at Beamsville (Ontario) in the afternoon after being blown across the river near Niagara Falls.

A message from Albany (N.Y.) says that the balloon Belgica passed over there proceeding to the north-east at 30 miles an hour.

Fast Air Mail Trip in Canada

THE latest of many air records in Northern Alberta was recorded the other day, when Capt. W. N. Sherlock, of Commercial Airways, flew 1,500 miles in one day, making five stops en route for the delivery of letters and packages. The trip was made from Fort McMurray to Aklavik, with stops at Fort Resolution, Fort Simpson, Fort Norman, Fort McPherson, and Arctic Red River. Capt. Sherlock hails from Cumberland, England, and is a former member of the R.A.F.

Seaplane in a Swimming Bath

A FEW days ago a naval seaplane crashed into a swimming bath at Loosdrecht, near Amsterdam. It hit a diving board from which a boy was just about to make a dive. The boy and both occupants of the seaplane were all killed.



AIR TRANSPORT

LONDON — CAPETOWN

The Facts—and an Alternative

By "IKONA"

SIR ALAN COBHAM—whom one hopes to meet one of these days—has done two great things. One is, that for his Cairo-Capetown air-route scheme, he has captured the imagination of the Air Ministry—which has almost none—of Imperial Airways—which has any amount—of the British public—which has even more, that it cannot afford—and of the ever-requisite initial financier; who must, clearly, have some. The greater thing is, that he has first captured his own.

Another thing is that he shouts aloud and joyously about it, and keeps on shouting. Which certainly shows his air-sense. That is the way of the successful pioneer who really knows his job.

Nor has he only shouted. All the luck he has ever had—and it is not a little—he has worked for. And to go on deserving it, he is still working; and wisest of all, making everyone else work at the detail of his scheme, within earshot.

So that one fears—past certainty, like spilt tea—that it is going to happen. Not too soon, in principle. We cannot too swiftly link our inposts as well as outposts of Empire, if we mean to keep it.

For throughout his proposition, Sir Alan Cobham has shown that he has nearly got the first-class passenger mind. Nearly, that means next to it; because he would never be any kind of passenger, but right on the bridge, skipping. Thus it looks to me, merely—as you probably thought—as the wet bargee to leeward. Not less admiring his sprayful passage, but I think, with a much nearer view of the good ship's essential doings and makings between wind and sea-water—and below that sometimes—as one knows them to be. As the bases—somewhat—of successful sea-faring.

Certainly he is a great, honest showman. As good as Cook's, any day; if not so tall by a fathom as that greatest ever known in our circus, dear old Cody. Who wrought his half-forgotten marvels on bamboo, fence-wire and borrowed engines: on tuppence ha'penny and the smell of an oil-rag. But looking only at the Trafalgar Square lions from his office windows, he shows us a live eyeful of all the real meat lions and elephants, the roaming herds of eland and "tommies"; Kiliman's eternal white sublimity and the violet splendour of the Falls. All that, if one has seen it all close to—perhaps a few years before he did—one had rather remember and worship than talk about. But on business meantime, one keeps no imagination. I can catch a cold just as well in London. As for lions and elephants, I have lost none. All I am concerned about are mails and passengers. Their leaving and landing right on time, and every time: and for no fancy fares. Also supplies and their transport, at the right price. Upkeep, and all the Martha-jobs. And expenses. And—to be very common indeed—paying them out of real earnings. With—one can't promise—perhaps a dividend, earned just so.

Now, as a pilot of commercial aircraft—the biggest yet or to come—Sir Alan Cobham is our very ace. But I believe I could do more than he with sixteen span of oxen and a wagon. This does not—so far—infer the fact that such—and not motoring—is all of Africa's supply transport—within the British territory one naturally assumes—beyond the practical railhead for the direct route, of Broken Hill. Which is 500 miles south of Tanganyika, with nothing but the telegraph line between it and Abercorn, and barely one third of the distance to Khartoum. It merely means the difference between my ground-set view-point—the actuality, as I claim—and his airy one.

On the axiom that an air-route lies on the ground it travels over, let me prove this by what lies in between. From the last rail-point on the Nile—let alone Khartoum—it is all a thousand miles, straight as you can fly, to the next rail-point for supplies, Port Florence, the N.E. lake-side terminus

of the transverse inland line from Mombasa. Thence, to any point on the likewise route-crossing railway from Dar-es-Salaam to the upper end of Tanganyika, another four hundred. Thence again, four hundred more down that lake, water-transport to Abercorn should be as cheap as anywhere else. But if you know that 3,000 ft. deep pit of air-peril, you don't fly down it. So, quite apart from the very mixed country of the first thousand miles at high altitude, it means that you must fly for over 1,200 miles over even higher-altitude jungle and bush-veld, of the very worst and most broken.

Just here, my ox-wagon-transport aspect enforces itself. But only here and there, outside tsetse-fly country. Other safari on wheels is impossible, beyond even creeper-tracking: seeing that Sir Abe Bailey's excellent proposition of a trunk-road does not yet exist, and would anyhow take some years to lay down. There is nothing else but the telegraph line—along which you cannot send supplies, spares, nor salvation—if you do not miss it, a hundred yards away. Too right, we have no bananas nor mealies growing in the wild. And those "herds of game" will shift, every last head, thirty miles overnight. Also native population—villages thrown in—may be reckoned at one boy to thirty square miles or more.

With that incredibly ineffective labour—if it has not gone to Katanga, coppermining—you may of course build aerodromes of sorts in between ends, and keep them clear of jungle in the tropic, on precisely these working-supply conditions. And without that trunk road, they will be so many islands strung on the wire. And how many of them? Unless, of course, you are guaranteed by the hardworked Providence that looks after street-made notions and first-class passengers, against forced landings in between.

This, one rather doubts, in view of the fact that from the Nile-Congo Divide—a widish table-land—for over 5,000 miles to Touws River, the last landing before Cape Town, you get your height from ground at anywhere between 2,000 and 6,000-ft. elevation, in the thinnest air there is. Nor at the best is it all velvety treeless veld *en route*. Any amount of it for miles—that cannot be dodged—is the chunkiest of rock.

That is why I, and some scores of my friends, who between us know most of our darling Africa from the ground, have our viewpoint fastened right there for quite a while to come. We have seen it all, third-class. From every thirsty underneath.

Still, having arrived all right at Broken Hill, you may then compete with one of the most comfortable and best-done railways in the Empire, for mails. Which, being bodiless communications merely, will therefore be in a greater hurry than passenger-freight!

Now all these being the rather understated working facts, pray in what scabbard of reason stays your argument for any sort of commercial trunk route, a thousand miles inland, from Cairo to the Cape? Which is a fundamentally different thing—you are entreated to believe—from the wholly admirable proposition of making every township an out-and-back flying centre: as a local undertaking, with its aerodrome the first charge, if you will, on local public funds. All done, as and when you soonest can. For these are your nuclei, your nourishing ganglia of flight. But try to make them into one artery, into it all your strength will run to waste. And all your money!

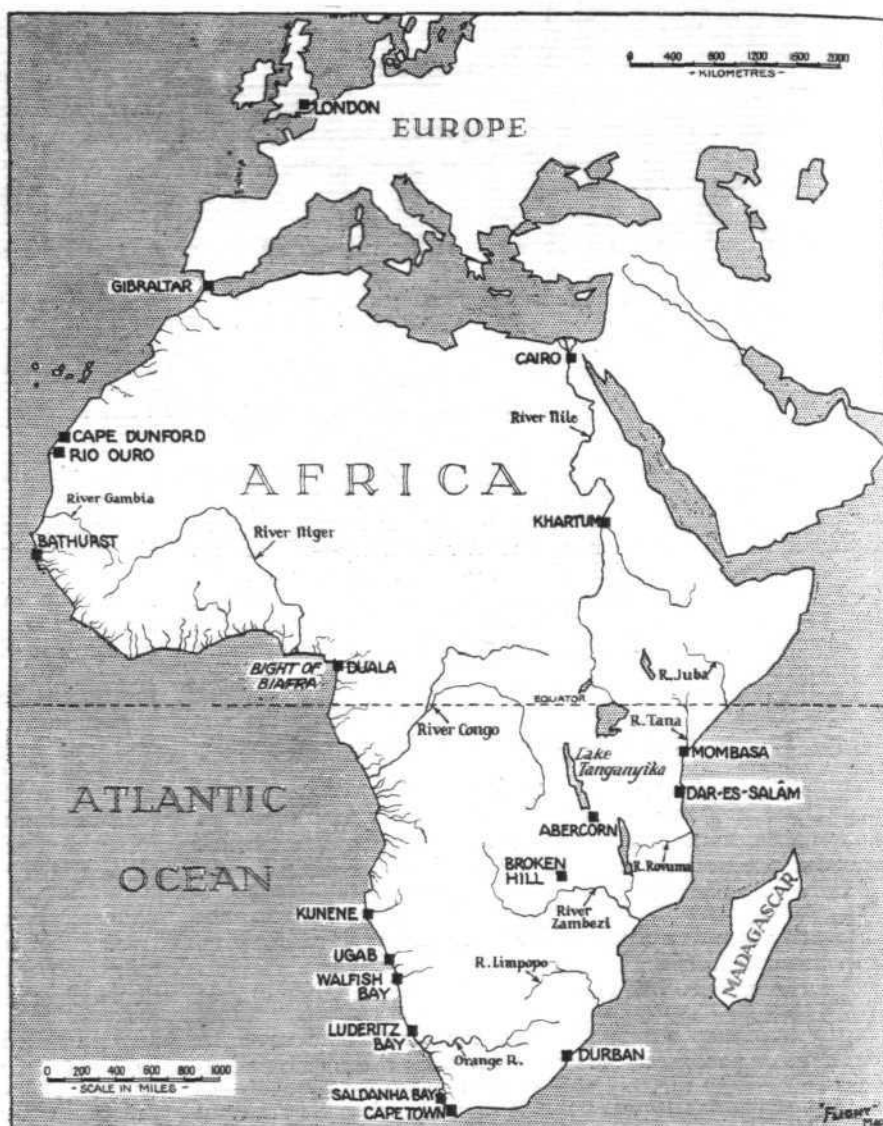
Well then, have I any better proposition, not only for linking up London and Cape Town by airway, but—what is even more important—opening up all intermediate Africa? Most certainly I have. Were it not so, and assured beforehand to be far swifter, ten times cheaper and safer, as well as—what is most important—stably reliable, to be "commercial" in every sense of the word: and were not the whole

based on reasons of natural physical advantages that cost nothing, yet that no amount of money can create—I should consider it more than impertinent to write one word against anything so constructive as Sir Alan Cobham's scheme.

Now look at the map of Africa. Nothing larger than *The Times* atlas contains. The first thing seen is that—with the Nile's exception—all the great African rivers run generally easterly or westerly inland from either coast, as the most absolutely direct means of reaching the interior. Now, with the exception of rare rapids and still rarer falls—the current of all of them is sluggish enough. They are not—as is supposed—full of sunk logs and snags, even after the rains. Even on the east coastal rivers—such as the Limpopo, Zambesi, Rovuma, Tana and Juba, to name only the largest and longest—"drifts" or fordable crossings, not always rocky by any means, are only too rare. Now merely because the flying boat can obviously fly over such obstacles, this means that these rivers and their tributaries for scores of miles, and those of the Atlantic coast for hundreds, become navigable for the largest flying boats for most of their length. For the average width of these rivers, "in between," for almost the whole of such mileage, would be more than ample for the alighting "water-dromes"—positively costless and self-maintaining to that extent—of a Dornier Dox or a Rohrbach, let alone a Blackburn Nile. And invariably the bulk of such population as any district contains, dwells by the river-sides rather than inland, so far as the auxiliary labour question is concerned. And incidentally, apart from bays and inlets, between Cape Guardafui and Durban, there are no fewer than thirty minor coastal rivers, each with its port-village of sorts at the mouth.

But—were it only for the enormous inland reach of the Congo and its tributaries, mostly towards our own mid-African dominions—my alternative is the Atlantic coast route, of 6,330 miles, all told, from Gibraltar. Contradict who may, I submit that it is infinitely superior, for more than the obvious reasons that it is the direct key to each of these riverine openings to the interior; that it links London with Cape Town and with every port in "the Guinea trade" between; and that from Bathurst in British territory—as a sort of aerial Crewe—it affords the nearest departure for South America. Yet what, above all, is the main desideratum of commercial aviation as opposed to its actual antithesis, the long-distance stunt flight, if not the increased useful-freight-load capacity, as derived from the lessened fuel-load? There then we get the lesser reasons that even the map displays. From Gibraltar to Duala in the Cameroons—the corner of the Bight of Biagra—there are 11 rivers to Bathurst, and 35 to the mouths of the Niger. Added to these, including the Rio Ouro, guarded by Cape Durnford, there are 39 absolutely land-locked inlets or lagoons. Then from Duala south to Saldanha Bay—which is less than 100 miles north of Capetown itself—there are 26 rivers from 50 to 200 miles long—apart from the Congo of course—and 22 land-locked inlets. Now these—river or inlet—average only 75 miles apart; and on the longest "dry stretches"—Rio Kunene to the Ugab stream, and Walfisch Bay to Luderitz—the distances do not exceed 300 miles. As it were, London-Lyons or London-Amsterdam!

Now for the practical commercial-flight reasons that do not show, but most potently exist. With few exceptions, inlets and river-mouths alike are bar-protected from the surf that is not always breaking, and so are in smooth water. To each one, the landing of steamer-borne supplies, means half-a-mile of lighterage at most. The least of these ocean fronted settlements is not fever-smitten as supposed. Actually less so than any of the east-country bush-veld; and some of even the high-veld; and less than ever now that the virtues of eucalyptus-planting have become recognised. Then as to weather-conditions—particularly as they might affect flight-regularity—one gets plenty of warning of any bad spell of weather, even in the rainy season; and shelter with such



LONDON—CAPETOWN: Sketch map showing some of the rivers on which "Ikona" bases his argument in favour of a West-Coast air route.

short distances, is rapidly gained. Also the very worst of it is scarcely worse than many a London-Paris winter flight. Otherwise, for eight months of the year, once the Cape Verde Islands are astern, calms positively prevail the whole way. And lastly, from the safety-standpoint—apart from the sea-level take-off—one flies in sea-density air the whole distance, and need maintain no greater height than 300 m.

Lastly, what is the comparison—if such a thing be possible—as to the commercial flight prospect? Take first, aero-port establishment. Even where the existence of sea-craft has not already established waterside structures and appurtenances—as well as labour supply—for a regular harbour, the lay-out *au fond* for the forlornest creek-mouth village, amounts to no more than the building of a few godowns for storage and repairs, bungalows or rondavels for residence, slipways and a landing-jetty; the erection of a signalling tower—steel or the usually plentiful local timber—with wireless; the provision of adequate lighting and a power plant for general purposes; and the laying down of sound moorings; all much as if—but no more than for some provincial yacht club. Otherwise, the only requirement of native labour—which all down the Atlantic coast is plentiful enough, stronger, more intelligent and with a better sense of discipline than that of any east-country "boys," with the exception of Zulus or Basutos—is to keep the fairway clear of the very occasional tree-trunks floated down from up-stream.

Then as to competition. For passengers, there is of course that of one of the best lines in the world—of which the third class represents rather better than the average of motoring—hotel comfort and catering—and of lesser lines. But—as the bottom-fact of any kind of transport-scheme—passenger-freight alone never does nor can pay running expenses anyhow; that is, on commercial fares not fancy ones. As a fact, not 5 per cent. of travellers are in such an urgent hurry as to need flight-speed for their business. The one or two per day—or week—who do need it—can be readily

accommodated aboard a Blackburn Nile—which is really no giant—yet leave plenty of cubic space for the special-express cargo-freight that does pay. Especially the mail-freight at £150 per ton minimum, which is not so very bulky; and is always in a hurry that cannot be too speedily satisfied. Count then, the number of Atlantic ports in which British trade is done. As to the Congo, our allies can hardly refuse the passage of mails to the nearest eastward points of the British interior, to which the distances from river side is short enough, for overland plane transference. Unless, indeed, they are prepared to supply up-river aircraft service.

Let us even go further south—to extremes, as it were—for an illustration of the possibilities, say, for the Johannesburg and Rhodesia mails, such as might appear from the map to exist along the Orange River-Vaal line. "None who knows much of the western Orange River—and few indeed know it all—would regard it as the most promising of riverine mail routes. Most of its western length lies through country best described as curious: not so much desert as deserted, because not yet irrigated. Some of it runs through deep canyons; and one has heard of falls that rival Victoria. Nevertheless, most of it runs in wide reaches with a slow-enough current right up to its union with the Vaal. And

knowing the latter river—and its similar character—as one does, all the way up to the 30-mile stretch above the Vereeniging dam, one would rather take a chance with an amphibian of safer and more regular service, above the river, all the way to high-velde Vereeniging as the terminus, than between Germiston and Capetown with an overland 'plane.

Such, at any rate, are the known facts with regard to a London-Capetown Atlantic-side flying-boat route. Especially as to its establishment at the very minimum cost conceivable; and the readiness thereof to be accomplished, so to say, to-morrow. Which, incidentally, the Luft-Hansa has been aiming to do, and would have done, but for a recent treaty between Portugal and another ally that makes difficulties that may still be overcome. The question therefore is—since the British taxpayer will have to pay, directly or indirectly, through the general subsidy to Imperial Airways—can one-tenth as much be said, or one-hundredth the natural advantage cited, for Sir Alan Cobham's "well-meant" Cairo-Cape overland scheme, the outcome of his marvellous long-distance stunt flights; no less stunts, though repeated in stages under official encouragement. For commercial flight is wholly another thing. And you cannot alter geography for any favour.

Canadian Air Activities

SIR HENRY THORNTON has declared that the Canadian National Railways, co-operating with other transportation corporations, intends to secure a substantial partnership in commercial airway companies, and thus it is of interest to note the development of air activities in that Dominion.

During 1929, commercial aircraft companies operating in Canada carried 86,242 revenue passengers; 430,636 lb. of mail; 3,903,908 lb. of freight and express parcels, with a total mileage of 6,284,079. In addition, the Federal and Provincial Governments maintained special patrols for topographical mapping, forest fire protection and fisheries, the latter particularly on the British Columbia coast, where a long and indented shore line previously offered many opportunities for illegal fishing.

During the current year, 88 companies, with 445 licensed 'planes, are engaged in commercial aircraft operations from 77 licensed airdromes or air harbours. Under governmental control there are 23 light aeroplane clubs, with a membership of 5,233, and 65 aircraft.

Extending the commercial air routes in the hinterland of Canada to a point approximately 1,500 miles beyond the nearest station on the Canadian National Railways, an aeroplane piloted by Mr. W. E. Gilbert and carrying six passengers and the first batch of mail sent by air to a point north of the Canadian mainland recently completed a flight to Herschel Island, in Mackenzie Bay, north of the Arctic Circle. The flight reduced to less than two days a journey which formerly occupied several weeks by steamer and canoe and which could be made only in summer time when the rivers and bays are free of ice.

The Canadian Government last year inaugurated an air mail service to the trading posts in the north-west territories as far north as Aklavik, the northernmost settlement of British-Canadians on the Canadian mainland, and these settlements, formerly cut off from civilisation during the winter, were kept in touch with "the outside" through the medium of the aeroplane.

The new service to Herschel Island extends communications by air some 250 miles farther north.

Australian National Airways, Ltd.

FLIGHT LIEUT. ULM, one of the directors of Australian National Airways, Ltd., which is running unsubsidised air services between Brisbane and Sydney, and Sydney and Melbourne, is reported to have said that in eight months they intended to complete the flights between Sydney and Melbourne in three and a half hours. This project must provide for flying by night. The tract of country between Sydney and Cootamundra is difficult, and provides few chances of making a forced landing in safety. This fact was responsible for the conditions of the late contract granted to the Larkin air lines, which provided that the service from Adelaide should only go as far as Cootamundra, and there connect with the train service to Sydney. Australian National Airways are using three-engined Avro 10 machines, and so doubtless feel that they can disregard the chances of a forced landing. According to the report of the interview Mr. Ulm said that they would soon have to place more machines on their inter-capital services (the original order was for four Avro 10's), and that the trend was for faster commercial aeroplanes. He said that a cruising speed of 120 m.p.h. would be necessary.

A strange story goes with this report, namely, that the company called for tenders for the construction of a 12-passenger machine, to specifications drawn up by Wing Commander Wackett (who designed two flying boats which were named Widgeon, one of which, with Lord Hugh Grosvenor on board, ended its career in a fatal crash). A tender which compared favourably with those received from firms in Great Britain is reported to have been made by the Commonwealth Shipping Board. We mention this report, however, with all reserve, and shall await authentic details from Australia.

Aviation in Australia

THE *Chamber of Commerce Journal* published, on July 25, the following statistics relating to the progress of Civil Aviation in Australia:—

	1922.	1928.	1929 Estimated.
Number of flights ..	3,050	76,585	129,174
Hours flown	1,719	22,464	45,244
Miles flown	127,476	1,632,506	3,252,940
Paying passengers carried	2,367	44,829	92,744
Freight carried (lb.) ..	4,478	1,638,179	2,361,879
Letters carried	78,542	308,883	394,170
			(and Perth- Adelaide 27,003 lb.)

Qantas Statistics

THE July, 1930, number of the *Qantas Gazette* contains the following statistics of the work done during the month:—

Route passengers, single stages ..	238
Taxi passengers	16
Freight (pounds)	4,332
Miles flown for month	21,158
Total company mileage (excluding school work)	1,147,431

Pilots on Strike

As a result of the refusal to agree to a demand for higher wages and a better technical service, the pilots of the K.L.M. (Royal Dutch Air Lines) went on strike on August 29. The machines which were abroad were flown to Holland, and those in Holland remained on the ground. Not only are the European K.L.M. services affected, but it is feared that there may be delay in starting the Dutch air service to the Dutch East Indies.

Van Ryneveld joins Imperial Airways

It is reported that Sir Pierre van Ryneveld is joining Imperial Airways temporarily in connection with the establishment of a Cairo-Cape air route.

West Australian Airways, Ltd.

THE Perth-Derby air service of West Australian Airways, Ltd., is at long last being extended northwards to Wyndham via Fitzroy Crossing and Hall's Creek. Years ago the inhabitants of Wyndham petitioned the Government to extend the air service to their district, but the difficulties of the country between Derby and Wyndham caused delay in granting their request.

Aviation Insurance Losses

ACCORDING to official estimates underwriters have suffered a total loss since 1919 amounting to about £500,000, most of which has been shouldered by the London market.

INTERNATIONAL AERONAUTIC ORGANISATIONS

By JOHN JAY IDE

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(Continued from page 976.)

INTERNATIONAL TECHNICAL COMMITTEE OF AERIAL JURIDICAL EXPERTS. (C.I.T.E.J.A.).

As noted above, the C.I.T.E.J.A. was created in accordance with the final protocol of the 1925 International Conference of Private Air Law. Its seat is at Paris and its General Secretary is Mr. Edmond Sudre. The first meeting of the Committee took place in Paris in May, 1926, attended by officials from 27 States. At this session, the C.I.T.E.J.A. created four commissions to deal with the following questions:

First Commission: 1. Nationality of aircraft. 2. Aeronautical registry. 3. Ownership, co-ownership, construction and transfer. 4. Rights, mortgages, preference and seizure.

Second Commission: 1. Systems of transport. 2. Air consignment notes (bills of lading). 3. Liability of the carrier with regard to the shippers of freight and passengers. 4. Jettison of cargo and general average. 5. Renting of aircraft.

Third Commission: 1. Damages and liability towards third parties. 2. Limits of liability. 3. Insurance.

Fourth Commission: 1. Legal status of commanding officer and personnel of aircraft. 2. Accident to personnel and insurance. 3. Status of passengers. 4. Law applicable to acts on board aircraft.*

The C.I.T.E.J.A. has held the following general conferences:—

Second Session: Paris, April, 1927.

Third Session: Madrid, May, 1928.

Fourth Session: Paris, May, 1929.

The work has been carried on between the general conferences by meetings of the various commissions, the last of which took place in Paris in May, 1930. At this meeting experts designated by 29 States examined the draft of an international convention on conditions of ownership and the aeronautical register and on aircraft mortgages and air rights. There was also examined a draft convention on liability for damages caused to persons and property on subjacent territory. These drafts are the logical sequel to the Warsaw Convention, and will be examined at the fifth plenary session of the C.I.T.E.J.A., to be held in Budapest in October, 1930. At this session the date of the Third International Conference of Private Air Law may be fixed for the adoption of the conventions inspired by the above-mentioned drafts.

ADVISORY AND TECHNICAL COMMITTEE ON COMMUNICATIONS AND TRANSIT OF THE LEAGUE OF NATIONS

At the meeting in December, 1920, of the Assembly of the League of Nations a resolution was passed proposing the creation of a body to be known as the Advisory and Technical Committee on Communication and Transit. This resolution took effect at the First General Conference on Communications and Transit, held under the auspices of the League at Barcelona, March-April, 1921, to give effect to Article 23 (e) of the Covenant, which states that members of the League "should secure and maintain freedom of communications and of transit." At the Barcelona Conference the rules for the organisation of future General Communications conferences and of the Advisory and Technical Committee were drawn up. It was specifically provided that States not members of the League might be admitted to participation in the Advisory and Technical Committee by resolutions of the Conference and that such States should be placed on the same footing as members of the League.†

While the Committee deals with all forms of transport, including aviation, it decided in 1926, in view of the existence of various bodies dealing with air traffic questions, not to create any permanent body to follow commercial air traffic questions as a whole, being content to maintain close relations with the C.I.N.A., C.I.T.E.J.A., the International Air Traffic Association, the International Chamber of Commerce, etc. However, at the Third General Conference on Communications and Transit in Geneva, August-September, 1927, the Committee decided to create an information bureau on aeronautics, with special reference to the following data:—

Agreements between States concerning rules and regulations for civil air navigation. Articles of treaties of commerce concerning air navigation.

Bills published, Acts and regulations regarding the régime and legal position of air navigation or likely to affect its development.

Information on regular lines already open or to be opened.

Information concerning time-tables. Important work approved, in process of execution, or completed during the year concerning the establishment of air routes (landing grounds, day and night signals, etc.). Maps.

Statistics concerning air traffic.*

The Assembly of the League of Nations at its eighth session on the proposal of the Committee of Experts on Civil Aviation of the Preparatory Commission for the Disarmament Conference (which had met at Brussels in February, 1927) adopted the following resolution:—

"Whereas in certain countries there is at present a close connection, from the technical point of view and from the point of view of organisation, between the requirements and developments of civil aviation and those of military aviation;

"And whereas this connection leads to difficulties in limiting air armaments without hampering civil aviation,

"The Assembly

"Declares that it is desirable, for this purpose, that the development of civil aviation should be directed solely towards economic ends to the exclusion of military interests;

"Recommends all States, members of the League of Nations, to act as far as possible on the recommendations made in this connection by the Preparatory Commission for the Disarmament Conference;

"And requests the council to instruct the Advisory and Technical Committee for Communications and Transit to consider practical methods likely to facilitate the conclusion of the agreements between aviation undertakings in the various countries which are referred to in these recommendations."

The Advisory and Technical Committee for Communications and Transit, at its twelfth session, held at Geneva in February and March, 1928, considered the Assembly's resolution and the communications of the Third General Conference on Communications and adopted the following resolution:—

"The committee considers it desirable to entrust to a special committee of inquiry the question of the action to be taken on the resolution of the last Assembly concerning economic co-operation between air navigation undertakings, in conformity with the recommendation unanimously adopted by the Committee of Experts on Civil Aviation of the Preparatory Commission for the Disarmament Conference.

The composition of this committee will be fixed by the Chairman of the Advisory and Technical Committee, who is empowered to take all the necessary steps to promote co-operation between the Governments concerned.

The committee of enquiry thus constituted will also have to study the questions of international organisation in air navigation raised at the Third General Conference on Communications and Transit and to make any suggestions to promote their settlement, if it considers it possible and desirable to do so."

The Transit Committee therefore arranged for a special Committee of Enquiry on Civil Aviation Undertakings consisting of nationals of the countries most closely concerned (whether members of the League or not) to meet at a conference which was held at Geneva, July 8-12, 1930.

The principal objects of the conference included the following:

To ascertain whether and on what lines progress could be made by closer international co-operation between the civil aviation of various countries with a view to increasing the economic efficiency of air navigation;

To examine the economic situation of civil aviation in various countries and to study the administrative provisions, national laws and subsidies;

To improve the co-ordination between the various existing international aeronautic organisations.

On the invitation of the Chairman of the Advisory and Technical Committee, the following States, members of the League, sent to the conference experts who were in many

* See Report of First Session issued by Comité International Technique d'Experts Juridiques Aériens, Paris.

† See League of Nations Barcelona Conference, Librairie Payot, Geneva, 1921.

* See Vol. II, Records and Texts of Third General Conference on Communications and Transit, Geneva, 1927, page 48.

cases the civil aviation heads of the respective countries: France, Germany, Great Britain, Italy, Japan, Netherlands, Poland, Spain, Sweden, Switzerland and Yugoslavia. The United States was likewise invited to the conference as were Brazil and Russia.

After consideration of a large number of proposals regarding international co-operation between air navigation companies, international insurance, air post rates, night lighting of airways and freedom of transit, the conference issued a report prefaced with the statement that the present situation of civil aviation is not as satisfactory as the state of technical development could permit, and that it is only through increasingly close international co-operation that this situation can be improved. The report stressed the desirability of affording greater freedom than exists at present to regular international transport by air, thereby intimating that Article 15 of the 1919 Convention should be amended in favour of greater liberty than exists at present. It may be stated parenthetically that in the Extraordinary Conference of the C.I.N.A. in June, 1929, this article was the cause of prolonged discussion, four delegations (United States, British Empire, Netherlands and Sweden) voting in favour of liberty as against twenty-seven delegations which considered that no air line should be able to exist without the authorisation of the States flown over.

The following resolution was passed at the 1930 Geneva Conference:

"Considering that in the future certain international air connections will be of general importance and that steps will have to be taken to insure their existence and permanence, the Committee of Enquiry recommends that the League of Nations should draw attention of Governments to the special importance which these connections will assume, and which might justify the study of a special statute."

INTERNATIONAL AERONAUTICAL CONFERENCE (OF EUROPEAN STATES). (C.A.I.)

Shortly after the war there was initiated a series of conferences of the administrative civil aviation services of Great Britain, France and Belgium for the study of such problems of detail connected with the operation of air lines functioning between these countries as wireless communications, weather forecast, organisation of air routes, use of airports, night lighting, standardisation of certain aircraft parts; day and night services, etc.

When the Convention of 1919 entered into force for these three States, the abolition of these conferences was contemplated, but by the time of the second session of the C.I.N.A. (London, October, 1922) it was seen that the latter could not undertake to solve these manifold questions of detail which concern only a small number of its members.

The conferences were accordingly maintained and to the three States mentioned above there were added the following: Netherlands, Switzerland, Germany, the Saar Territory and Czecho-Slovakia.

These conferences permit rapid solution between the heads of the administrations concerned of the numerous difficulties which, if dealt with through diplomatic channels, would impede the development of air traffic.

The organisation also affords a valuable field of experiment where it is easy to put to test new methods which it would be unwise to impose on a large number of States before having at least put them in practice within a limited sphere.

The 30th session of the C.A.I. was held at Prague in April, 1930, and the 31st is scheduled to take place at The Hague during the International Air Congress in September, 1930.

AIR MAIL CONFERENCES

The first time that air mail was made the subject of official international regulation was at the Eighth Congress of the Universal Postal Union held at Stockholm, August, 1924. The resulting convention was put into force in October, 1925, in all countries belonging to the union. As the air mail provisions of the convention were incomplete, it soon became necessary to give this subject a more definite status and in September, 1927, at the suggestion of the International Chamber of Commerce and on the official initiative of the Russian and Dutch governments, there was held a special conference of the postal administrations of 36 countries at The Hague. The regulations resulting from this conference consisting of 53 articles are known as the Hague Arrangement on Air Mail and became effective at the beginning of 1928. This arrangement was not adequate in that its provisions were merely optional. At the Ninth Congress of the Universal Postal Union held in London May-June, 1929, a new universal postal convention was drawn up, effective July 1,

1930. The principal provisions from the air post point of view include the payment of air carriers, air parcel post and special air mail surtaxes. Unfortunately, uniformity of surtaxes which already exists for ordinary mail still lies in the future as far as air mail is concerned.

THE INTERNATIONAL AIR CONGRESS

The International Air Congress is an organisation which has no continuous existence but meets every second or third year on the initiative of various governments. The actual organisation of the Congress is usually handed over to some unofficial aviation body in the country where the Congress is held. The participants to these congresses fall into three classes: official government delegates, members of honour and private members. There are read at these congresses large numbers of papers on various subjects such as air traffic, scientific and technical matters, law, medicine, touring, etc.

The first air congress was held in Paris in 1921, the second in London in 1923, the third in Brussels in 1925 and the fourth in Rome in 1927. The fifth congress is taking place at The Hague in September, 1930, after an interval of three years.

INTERNATIONAL CIVIL AERONAUTICS CONFERENCE

This Conference took place in Washington in December, 1928, in commemoration of the 25th anniversary of the first flight effected by the Wright brothers in December, 1903.

It was called at the suggestion of the President of the United States to provide an opportunity for an interchange of views upon problems pertaining to aircraft in international commerce and trade. The chairman of the organisation committee was Mr. W. P. MacCracken, Jr., then Assistant Secretary of Commerce for Aeronautics.

The general programme was very similar to that of the International Air Congress, in that papers were read on various subjects dealing with aeronautics. One hundred and sixteen official and unofficial delegates from 34 foreign countries attended this conference, in addition to a very large American representation.

The Conference was immediately preceded by an important aeronautical exposition at Chicago, and followed by an excursion to Kitty Hawk, where monuments at the scene of the first flights were dedicated.*

INTERNATIONAL CONGRESS ON SANITARY AVIATION

The first International Congress on Sanitary Aviation was held in Paris in May, 1929, under the patronage of the French Government. Both official and unofficial delegates from 38 nations attended this conference.

One of the interesting features of this Congress was an exhibition of ambulance aeroplanes, among the makes shown being Lioré et Olivier, Junkers, Bréguet, Morane Saulnier, Potez and Hanriot.

It was decided that the Sanitary Congress should be made a permanent organisation, and that a Plenary Conference should be held every four years. A secretariat has been established at the Aero Club of France.

The following resolutions were passed at the closing session of the Congress:—

1. That all of the countries represented at the Congress should favour the extension of sanitary aviation in all cases.
2. That all facilities be granted in time of peace to sanitary aeroplanes to favour their traffic in allowing them a permanent priority in utilising all landing fields and all means of rapid transport by granting them free entry through frontiers.
3. That a permanent policy of the landing fields should permit the greatest utilisation of sanitary aeroplanes, starting with the regions less favoured by existing means of transportation.
4. That the transformation of commercial aeroplanes into sanitary aeroplanes be encouraged with the view of permitting their use, either in time of peace in case of accidents or public calamity, or in time of war, for normal sanitary evacuations.
5. That the private societies or agencies planning to construct or utilise sanitary aeroplanes receive from the Governments, material and moral assistance to favour their enterprises.
6. That the status of sanitary aeroplanes as to their immunity concerning international regulations, and notably by the Geneva Convention be settled as soon as possible, so as to assure them all protection now given to other methods of sanitary evacuation.

* See Proceedings of International Civil Aeronautics Conference. December 12-14, 1928. Washington Government Printing Office, 1929.

(To be concluded)

AIRISMS FROM THE FOUR WINDS

Bullion by Night

BRITISH gold shippers wish to save the credit due to the absence of gold from banks, both in the exporting and the importing countries, during the period of transport. To secure that gold shall not leave the banks before closing time, and yet arrive in Paris banks before opening time, it is being sent by air during the night, Imperial Airways having agreed to run night bullion services between London and Paris whenever they are needed. The decision of Imperial Airways to reduce the fares for certain services between London and Paris has been followed by an announcement of cheaper fares by the Air Union, the French line. Henceforth, the fares between London and Paris will be £4 4s. single, £7 19s. 6d. return, and £7 for the week-end. Through fares from London to Ajaccio, Barcelona, Berne, Biarritz, Bordeaux, Evian, Geneva, Lausanne, Lyons, Madrid, Marseilles and Tunis will thus be reduced by 11s. single and 21s. return.

The Little Entente Competition

THE second stage of the military aeroplane competition of the States of the Little Entente and Poland was won by a Czech, who covered the distance between Prague and Belgrade in 3 hr. 10 min. Next came a Yugoslav, in 3 hr. 23 min. The first stage, from Warsaw to Prague, had been won by Yugoslavia in 6 hr. 55 min.

Nobility in Aircraft Business

EARL AMHERST, of Wilton Crescent, S.W., is one of the directors of Garraway, Black, and Co. Ltd., Avenue Chambers, Southampton Row, W.C., which has been registered as a private company to manufacture and deal in balloons, aeroplanes, etc.

Air Transport of Persian Treasures

MANY Persian treasures will be on view at Burlington House, Piccadilly, next January and February. They will come from the mosques and ancient palaces of Persia.

Most of these will be transported across the desert by aeroplane and then brought to England in specially guarded ships.

Air Defence Brigades

THE 51st (London) Anti-Aircraft Brigade, R.A., commanded by Lieut.-Col. F. R. W. Hunt, returned to London on August 24 after a fortnight's training at Watchet, and the 27th (London) Air Defence Brigade, commanded by Col. C. Buckle, took its place. It comprised six batteries, all from the City of London, who will remain in camp for 15 days.

Air Marshal Retires

IT was announced in the *London Gazette* of September 2, that Air Marshal Sir John Higgins, K.C.B., has been placed on the retired list at his own request. He is succeeded as Air Member for Supply and Research by Air Vice-Marshal H. C. T. Dowding, C.B.

Two Successful Japanese Flights

MR. SEIJI YOSHIHARA, who left Berlin on August 20, on his flight to Tokyo, via Russia, landed on the Yoyogi parade ground there just after noon on Saturday, August 30. The flight of 6,800 miles in 10 days is believed to be a record for light aeroplanes. He averaged over 625 miles daily and his flying time was 79 hr. 58 min. He was welcomed by the Minister of Communications and other officials, and a crowd estimated at 200,000 was present. Stepping from the cockpit, he bowed to his aeroplane, silently thanking it in accordance with Shinto custom.

His route lay through Königsberg, Smolensk, Swerdlowsk, Omsk, Krasnojarsk, Tschita, Charbin, Osaka and Tokyo. He was flying a Junkers-Junior.

Mr. Zensaku Azuma, who flew from California to the Atlantic coast on a Travel-Air machine, took ship to England, and then set out from Croydon on a flight to Tokyo, arrived at Tachikawa Aerodrome, Tokyo, at 5.22 p.m. the same afternoon. He was welcomed by a large crowd. This is Mr. Azuma's first visit home for 14 years.

Count Zeppelin's Voice

A GRAMOPHONE record of the voice of Count Zeppelin has been discovered. It was made at Echterdingen, in 1908, when the Zeppelin was completely destroyed and the Count delivered a speech "summoning the German people to assist him."

The record is very primitive and of wax, nevertheless it reproduces his voice, and is of great historic value.

Costes and Bellonte Fly the Atlantic

CAPT. COSTES and his companion Bellonte started from Le Bourget at 10.55 a.m. (B.S.T.), on Monday, September 1, on an attempt to fly non-stop to New York. The machine

they were flying, named the "Question Mark," is the same special Breguet in which they made their record non-stop flight last September from Paris to a village in Manchuria. The tanks had been filled with fuel variously reported as 1,056 and as 1,560 gallons. The Breguet flew over Co. Wexford, and then followed the course of the Shannon. On Tuesday at noon (B.S.T.) the machine passed over St. Pierre Island, off Newfoundland, and at 7.8 p.m. local time on Tuesday (which equals 12.8 a.m. Wednesday, B.S.T.) it landed safely at the Curtiss-Wright aerodrome on Long Island, New York. The flying time for the 3,700 miles was 37 hr. 17 min.

An Idea for J. H. Thomas

GENERAL BALBO, Italian Minister for Air, has submitted for Signor Mussolini's approval schemes of work which are estimated to provide employment for 5,849 workmen.

Airship Transporter for Cardington

MESSRS. VICKERS-ARMSTRONG, LTD., have received an order for an airship transporter, or movable mast, to transport airships from the tower to the sheds at Cardington. It is to be a steel pyramid 80 ft. high, mounted on caterpillar castors, and fitted with a winch. It is hoped that this device will enable the present large landing parties of 300 men to be dispensed with, and also that it will make it possible to move airships into and out of their sheds in much less favourable weather than is now considered necessary.

Herr Grönau's Aircraft

THE Dornier-Wal was built in 1924. A year later Amundsen took it on a Polar expedition, and when a sister machine was frozen in the ice north of Spitzbergen the Dornier-Wal brought both crews back to civilisation; he also searched for the survivors of the airship Italia with it. The Norwegians, Capts. Luetzow and Holm then acquired it, and used it on scientific expeditions.

In 1927 the engines were replaced, and Capt. Courtney used the machine in his unsuccessful attempt to cross the Atlantic by way of the Azores.

The machine then went back to Germany, and for several months it was used by the German Air Traffic Flying School. In 1929 he made a trip to Iceland and back, and among its flights this year was a flight to Finland.

Aeroplanes in China's Civil War

A COUPLE of aeroplanes belonging to the Nanking party dropped seven bombs on Peking one day last week. Most of the bombs failed to explode, and the only casualty reported is one Chinaman slightly injured. The aeroplanes are stated to have been of an American type. It is reported regretfully from Peking that that city is powerless to put up a defence in the air, as their Moths are not ready to fly. But won't the Nankinese pilots turn tail quickly when from the streets of Peking there rises up the cry of dread "Betcher its a Moth!"

Chicago must be Used to It

NOR content with gunmen and other means of killing their surplus citizens, Chicago now turns to aircraft, and already three pilots have been killed. On August 27 Mr. J. Shazo rolled his machine into the ground; on August 30 Mr. G. Fernic broke up his home-made aircraft in the air; and on September 1 Capt. Page crashed at high speed.

The Morris Aero Engine

IT is no longer a secret that Sir William Morris has for some considerable time been interested in the production of aero engines. Last week at the Wolseley Works, Birmingham, Sir William showed us privately the first of the two types of engine which it is proposed to develop. The first, a seven-cylinder radial air-cooled, has emerged successfully from prolonged full-throttle running, and will shortly be submitted to Air Ministry type tests. At the time of our visit it was developing about 140 h.p., and it is likely that it will be type-tested at somewhere around this figure. The second engine, which it is intended to place on the market later, is a nine-cylinder radial, and will be of greater power. This new development is another indication of the enterprise and initiative of Sir William Morris in the world of transport and engineering.

Examinations for Air Navigators

AN examination for first class air navigators' licences will be held at the Air Ministry on October 7-10, and an examination for second class air navigators' licences will be held on October 7-9 at the Air Ministry and at the Office of the Air Ministry Representative, Heliopolis Aerodrome, Egypt.

THE ROYAL AIR FORCE

London Gazette, August 19, 1930.

Stores Branch

Pilot Officer Harold Henry Hilliar is promoted to rank of Flying Officer (August 3). Flying Officer James Edward Welman is transferred to Reserve, Class B (Aug. 14).

Medical Branch

Eustatius William Barton Griffiths, M.B., Ch.B., is granted a short service commn. as Flying Officer for three years on Active List, with effect from and with seniority of August 5.

RESERVE OF AIR FORCE OFFICERS

General Duties Branch

The undermentioned are granted commns. in Class A.A. (ii) as Pilot Officers on probation:—Edward Peter Kenrick (August 5); John Forster Harrison Bulman, Crawford Blair McNair (August 6). William Humble is granted a commission in Special Reserve as Pilot Officer on probation (July 27).

The undermentioned Pilot Officers on probation are confirmed in rank:—Christopher Mackinnon Scrutton (April 1). George Bertram Shields (April 7).

Flight-Lieut. Albert John Gordon Anderson is transferred from Class C to Class B (July 12). The commns. of the undermentioned Pilot Officers on probation are terminated on cessation of duty:—Charles Elvin Goodman Mumby (July 26); Bernard Icely (July 29); Laurence Aston Robertson (July 29).

AUXILIARY AIR FORCE

General Duties Branch

No. 603 (CITY OF EDINBURGH) (BOMBER) SQUADRON.—The undermentioned to be Pilot Officer:—Robert Sorel-Cameron (June 23). No. 604 (COUNTY OF MIDDLESEX) (BOMBER) SQUADRON.—The undermentioned to be Pilot Officer:—Ivan George Statham (June 28).

London Gazette, August 26, 1930.

General Duties Branch

The follg. flight cadets having successfully passed through the R.A.F. College, Cranwell, are granted permanent commns. as Pilot Officers, with effect from and with seniority of July 26:—P. B. Coote, D. V. Angell, T. U. C. Shirley, J. Whitehead, A. G. Cleland, H. B. Wrigley, W. P. G. Pretty, C. E. Littler, M. B. Edwards, G. D. Stephenson, D. G. Vaughan-Fowler, R. B.

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Group Captains: G. I. Carmichael, D.S.O., A.F.C., to Half Pay List, 26.8.30. A. H. Jackson, to R.A.F. Base, Singapore, 21.8.30 to Command.

Wing Commanders: A. T. Whitecock, to Inspectorate of Recruiting, for duty as Inspector of Recruiting; 17.8.30. E. W. Norton, D.S.C., to Station H.Q., Upavon, to command; 18.8.30.

Wing Commander C. G. Tucker to 209 Sqn., Mount Batten, 25.8.30 to Command.

Squadron Leaders: E. D. Johnson, A.F.C., to H.Q., Coastal Area; 18.8.30. H. A. Smith, to R.A.F. Depot, Uxbridge; 23.7.30.

Squadron Leaders: A. W. F. Glenn, M.C., D.F.C., to H.Q., Coastal Area, 25.8.30. T. E. Salt, A.F.C., to Aircraft Depot, India, 22.8.30. R. W. Chappell, M.C., to R.A.F. Depot, Uxbridge, 25.8.30.

Flight Lieutenants: G. W. Tuttle, P. R. Barwell, and T. G. Pike, to Home Aircraft Depot, Henlow; 5.8.30. L. H. Brooke, to Station H.Q., Donibristle; 16.8.30. P. Jones, to Station H.Q., Northolt; 29.7.30. J. A. W. Binnie, to H.M.S. Eagle; 15.8.30. J. M. Cohn, to No. 1 Sch. of Tech. Training (Apps.), Halton; 14.8.30.

Flight-Lieutenant J. H. Sender to 502 Sqn., Aldergrove, 20.8.30.

Flying Officers: G. H. Walker, E. B. Steedman, R. H. Donkin, G. E. Campbell, D.F.M., A. H. Owen, H. Waring, B. C. Yarde, V. D. Morshead, J. D. F. Bruce, A. E. J. Pratt, L. S. Snaith, and R. L. Mills, to Home Aircraft Depot, Henlow; 5.8.30. A. P. Miller, to Home Aircraft Depot, Henlow; 12.8.30. T. H. Carr, to 24 Sqn., Northolt; 14.8.30. F. G. H. Ewens, to Station H.Q., Tangmere; 29.7.30. H. F. Luck, to H.Q., R.A.F., Middle East; 15.8.30. I. G. E. Dale, to No. 45 Sqn., Middle East; 29.7.30. F. J. Parker, to R.A.F. Depot, Uxbridge; 19.7.30. M. C. Collins, to No. 501 Sqn., Filton; 18.8.30. H. W. Charnock, to No. 1 Sqn., Tangmere; 18.8.30. K. C. T. Marshall, to 447 Flight, Mediterranean; 16.8.30.

Flying Officer D. N. Roberts, to 504 Sqn., Hucknall, 18.8.30. S. T. Morgan (Lt., R.N.), to No. 444 Flight, 26.8.30. G. M. Pares (Lt. R.N.), to No. 443 Flight, 25.8.30. E. J. George, to Station Flight, Upper Heyford, 20.8.30. D. J. Hughes-Morgan, to Armament & Gunnery Sch., Eastchurch, 21.8.30.

Pilot Officers: A. C. Bailey, to 35 Sqn., Bircham Newton; 13.8.30. J. L. C. Banks, to 503 Sqn., Waddington; 13.8.30. J. E. C. McClure, to 12 Sqn., Andover; 13.8.30. R. M. Noblston, to 9 Sqn., Manston; 13.8.30. A. W. B. Page, to 503 Sqn., Waddington; 13.8.30. E. Poole, to 10 Sqn., Upper Heyford; 13.8.30. W. B. J. Sharp, to 504 Sqn., Hucknall; 13.8.30. G. E. B. Stoney, to 502 Sqn., Aldergrove; 13.8.30.

Landings at R.A.F. Stations

AN Air Ministry weekly order describes the charges and conditions for civil aircraft landing or being accommodated at R.A.F. aerodromes and seaplane stations. Fees for a single landing vary from 1s. for small machines occupying less than 500 sq. ft. of floor space, and 2s. 6d. for those under 900 sq. ft., to 15s. for large-type machines over 3,600 sq. ft. with more than two engines. The respective housing fees, up to 24 hours, are 2s. 6d., 5s., and 30s. Separate monthly rates are fixed. For aircraft with wings capable of folding, the class for landing charges will be calculated on the basis of the size with wings open, and the class for housing charges on the basis of the size with wings folded, if, in fact, the wings are folded. The officer of the watch is responsible that the accountant officer is notified immediately a civil aircraft lands at an R.A.F. aerodrome.

Dashper, N. C. Walker, J. W. C. More, J. A. Chance, C. E. J. Baines, D. R. S. Bader, D. B. D. Field, J. S. Newcombe, W. R. Wills-Sandford, J. P. Massey.

The follg. are granted short service commns. as Pilot Officers for four years on active list, with effect from and with seniority of August 12:—C. E. Spencer, G. S. Coleman, H. O. Woodhouse, R. W. H. Harrison, E. C. Bates. Capt. A. B. Woodhall, R.M., Flight-Lieut., R.A.F., is granted a permanent commn. as Flight-Lieut. with effect from August 1 and with seniority of July 1, 1929.

The follg. Pilot Officers on probation are confirmed in rank:—H. E. Dicken (June 17); E. C. W. S. Smith (July 15). The follg. Pilot Officers are promoted to the rank of Flying Officer:—C. B. Field (May 2); T. J. Rees (July 8); K. A. K. MacEwen (July 25); H. R. Dale (August 22).

Group-Captain G. I. Carmichael, D.S.O., A.F.C., is placed on half-pay list, scale A, August 26 to September 14, 1930, inclusive; Flight-Lieut. H. V. German is placed on retired list (August 26). The follg. are transferred to the Reserve, Class C:—Flight-Lieut. D. S. E. Vines (August 15); Flying Officer S. H. White (August 16). Flying Officer R. T. Read relinquishes his short-service commn. on account of ill-health (August 11); Lieut. C. L. Keighly-Peach, R.N., Flying Officer, R.A.F., ceases to be attached to R.A.F. on return to Naval duty (August 14).

Medical Branch

M. Pearson, M.R.C.S., L.R.C.P., L.D.S., R.C.S., is granted a temporary commn. as Flying Officer, with effect from and with seniority of June 1; Flight-Lieut. C. W. Coffey, L.C.R.P. and S., is transferred to Reserve, Class D (ii) (August 24).

Dental Branch

Flight-Lieut. P. E. Brown, L.D.S., is promoted to rank of Squadron Leader on promotion to Major in Army Dental Corps (July 14).

RESERVE OF AIR FORCE OFFICERS

General Duties Branch

The follg. are granted commns. in Class A.A. (ii) as Pilot Officers on probation:—A. I. A. McDougall (June 19); J. M. D. Ker (August 12). Flying Officer C. S. Clarke is transferred from Class A to Class C (August 24). Flying Officer W. F. Davenport relinquishes his commn. on completion of service (July 4); Flying Officer J. E. Clayton resigns his commn. (August 1); Flying Officer A. W. Wood relinquishes his commn. on completion of service (May 26). (Substituted for Gazette, July 1.)

G. R. Stroud, to 502 Sqn., Aldergrove; 13.8.30. J. H. Supple, to 10 Sqn., Upper Heyford; 13.8.30. L. Watson, to 35 Sqn., Bircham Newton; 13.8.30. R. L. West, to 503 Sqn., Waddington; 13.8.30. R. B. Abraham, to 504 Sqn., Hucknall; 13.8.30. M. J. Adam, to 24 Sqn., Northolt; 13.8.30. J. C. Atkins, to Home Communication Flight, Hendon; 13.8.30. D. Barclay, to 503 Sqn., Waddington; 13.8.30. R. J. Cohen, to 24 Sqn., Northolt; 13.8.30. G. D. Emms, to 24 Sqn., Northolt; 13.8.30. N. Kirkham, to 24 Sqn., Northolt; 13.8.30. A. N. Luxmore, to 501 Sqn., Filton; 13.8.30. M. E. Pickford, to 24 Sqn., Northolt; 13.8.30.

Pilot Officers: R. W. H. Harrison, to No. 26 Sqn., Catterick, 26.8.30. E. C. Bates, to No. 33 Sqn., Eastchurch, 26.8.30. G. S. Coleman, to School of Army Co-operation, No. 16 Sqn., Old Sarum, 26.8.30. H. O. Woodhouse, to School of Army Co-operation, No. 16 Sqn., Old Sarum, 26.8.30. C. E. Spencer, to No. 100 Sqn., Bicester, 26.8.30. W. H. Rayneau, to No. 3 Flying Training Sch., Grantham, 19.8.30.

Stores Branch

Flying Officer: S. R. L. Poole, to Central Flying Sch., Wittering; 25.8.30.

Medical Branch

Flight Lieutenant: P. J. Nyhan, to Station H.Q., Hawkinge; 2.9.30. **Flying Officer:** M. Pearson, to P.M., R.A.F. Hospital, Halton; 1.6.30, on appointment to a temporary commn. in R.A.F.

Chaplain's Branch

The Rev. C. A. B. Allen, to Home Aircraft Depot, Henlow, 1.8.30, for duty as Chaplain (Church of England).

NAVAL APPOINTMENTS

The following appointments have been made by the Admiralty:—Lieut. F. M. R. Stephenson (Flight-Lieut., R.A.F.), to rank of Lieut.-Commr. (seny., August 15).

Lieut.-Commr.—E. H. B. Baker, to *President*, for course in meteorology at Air Ministry. S. Richardson (Flt.-Lieut., R.A.F.), to *Dorsetshire*; Sept. 2.

Lieutenants G. C. Dickens (Flight Officer, R.A.F.), to *Victory*, for B.T. Squadron, Gosport; August 25. G. Willoughby (Flight Officer, R.A.F.), to *Repulse*; Sept. 2. A. B. B. Foulerton, to *President*, for course in meteorology at Air Ministry; Sept. 15.

Lieutenants, Flying Officer, R.A.F.—F. M. R. Stephenson, to *Hermes*; July 1. K. Williamson, to R.A.F. base, Gosport; May 12.

The following appointments were made by the Admiralty on August 27:—Lieuts. (Flying Officers, R.A.F.).—E. G. Carnduff, to *Courageous* (Aug. 27); and D. W. Mackendrick to *Coventry* (Sept. 1).

New Zealand Air Force

THE New Zealand Air Force is being reorganised into four squadrons, two of them army-co-operation, and two of them bomber squadrons. Each consists of three flights, which are based on different towns. The whole wing will be commanded by Wing Commander K. Caldwell.

University Air Squadrons

It is rumoured that various universities, possibly including Sheffield, intend to ask permission of the Air Ministry to form air squadrons on the lines of those at Oxford and Cambridge. A similar request from London University was refused on the ground that such a squadron would be likely to clash with the interests of the A.A.F. squadrons at Hendon.

MODELS

WESTLAND AIRCRAFT SOCIETY MODEL SECTION

THE second competition in connection with the above was held on the aerodrome at Yeovil on Thursday last, progress and keen interest being apparent by the number of fuselage models entered on this occasion. Particular interest was shown in a twin fuselage model made by Mr. A. Petts.

The first prize was won by Mr. Elsmore with a model of the "flying stick" type, which flew remarkably well and was the subject of much favourable comment. Mr. Walden came second with his fuselage model and Mr. Boreham's "twin pusher" type came in third.

The competition was held over the same course as previously, viz.:—a length of 400 yards terminating in a circle of approximately 30 yards, the winner being decided by landing his model within the circle in the lowest number of observed flights, each competitor being accompanied by his own observer.

Amongst the many and varied types of models that have so far been exhibited is a scale model of the "Westland Wessex" (the type of machine now being supplied to the "Sabena" Air Lines in Belgium), made by Mr. W. H. Osborne, of Montacute, who also has a model of a very early type of machine, made entirely in metal, which has a match box as a "hangar."

The syllabus of lectures for the forthcoming winter session of this Branch of "The Royal Aeronautical Society," will include lectures on the subject of model aeroplanes, and acceptances from lecturers on other subjects of aeronautical interest prove that this will be one of the most interesting sessions yet enjoyed.

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Pay Load of Westland "Wessex"

WE have been asked to point out that the figures for pay load, 11,000 lb. as a passenger machine and 12,000 lb. as a goods machine, which appeared in the advertisement of Westland Aircraft Works in our issue of August 29, should have been 1,100 and 1,200 lb. respectively. The error occurred in telegraphic transmission of instructions, and would be obvious to anyone giving the subject a moment's thought. The "Wessex" is an excellent little machine, but even so it will not, on a tare weight of 3,425 lb., carry a pay load of 11,000 lb.

Good Work with a "Cirrus-Hermes"

CIRRUS AERO ENGINES, LTD., have received an interesting letter from Mr. C. Bernard Wilson concerning his flight to Baghdad and back in a "Hermes-Desoutter" monoplane. Mr. Wilson says:—

"It may interest you to hear that on my recent flight to Baghdad and back, the 'Hermes' engine fitted to my Desoutter functioned perfectly throughout the flight. The flying time on this flight was 62 hr. and the distance covered approximately 5,500 miles, and it must be remembered under most trying conditions for an air-cooled engine, as from Constantinople to Baghdad the heat was intense and the machine was carrying its maximum permissible load.

"Apart from a sometimes very hurried daily inspection, no work was carried out on the engine until arriving at Baghdad where it received a full routine inspection, and where it was found that the motor was in perfect condition, on the return flight again no work was carried out, and the engine was running as well when I returned to Croydon as when I left.

"A week after arriving back to England the machine was flown in the King's Cup race, and the engine was of course run at full throttle for the entire race and was giving full revs. at the end of the course. This engine is still in the machine and is still running perfectly. I think that these two flights prove that the Hermes is an engine that does not mind hard work under most trying conditions."

Cirrus Co's. New Address

READERS should note that Cirrus Engines have moved from Kingsway, and that their head office address for all correspondence is now Cirrus Aero-Engines Ltd., Aircraft Depot, Purley Way, Waddon, Croydon.

The "Titanine" Fire

ON August 27, at approximately 11.45 p.m., a fire broke out in two outbuildings used as stores for raw materials at the Hendon works of Titanine-Emallite, Ltd. The main factory was not affected in any way, and work was resumed as usual next day. In view of the extremely exaggerated accounts which appeared in the daily press, Titanine-Emallite, Ltd., wish us to state that there has been, and will be, no delay in executing orders.

PUBLICATIONS RECEIVED

Aeronautical Research Committee Reports and Memoranda: No. 1287 (M. 67).—Mechanical Properties of Pure Magnesium and Certain Magnesium Alloys in the Wrought Condition—(Continued). By S. L. Archbutt and J. W. Jenkin. Feb., 1929. Price 1s. net. No. 1288 (Ae. 437).—The Acceleration of a Fairey "Flycatcher" Seaplane During Aerobatic Manœuvres. By L. P. Coombes, B.Sc., and A. S. Crouch. April, 1929. Price 6d. net. No. 1296 (Ae. 430).—Tests of Models of High Speed Seaplanes for the Schneider Trophy Contest of 1927. By W. L. Cowley and R. Warden. Section I. —Nov., 1927. Price 4s. net. No. 1297 (Ae. 431).—Ditto, Section II. Tests on the Gloster IV Models. Feb., 1928. Price 3s. 6d. net. No. 1298 (Ae. 432).—Ditto, Section III. Tests on the Crusader Models. Sept., 1928. Price 2s. 6d. net. No. 1299 (Ae. 433).—Ditto, Section IV. Comparison with Full Scale and Conclusions. Oct., 1929. Price 1s. 9d. net. No. 1307 (Ae. 447).—On the Effect of Altitude Upon the Distance Required for an Aircraft to Take Off and Climb 20 Metres. By K. T. Spencer, B.Sc. Oct., 1929. Price 6d. net. No. 1309 (Ae. 449).—Stresses in Wing Structures, Accelerometer and Incidence Measurements in Various Manœuvres. By S. Scott-Hall, M.Sc. Price 9d. net. H.M. Stationery Office, Kingsway, London, W.C. 2.

Bibliography of Aeronautics, 1926. National Advisory Committee for Aeronautics. U.S. Government Printing Office, Washington, D.C., U.S.A. Price 20 cents.

Bibliography of Aeronautics, 1927. National Advisory Committee for Aeronautics. U.S. Government Printing Office, Washington, D.C., U.S.A. Price 35 cents.

Catalogues

Spartan Aircraft. Spartan Aircraft, Ltd., Weston, Southampton.

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NEW COMPANY REGISTERED

GARRAWAY, BLACK AND CO., LTD., 14, Avenue Chamber, Southampton Row, W.C.1.—Capital £100, in £1 shares. Objects, to manufacture and deal in balloons, aeroplanes and airships of all kinds, and all accessories thereof, etc. Directors:—Capt. The Earl Amherst, M.C., 1, Wilton Crescent, S.W.1; H. W. Garraway, 25, Alton Road, Croydon, Surrey; G. G. Black, 22, Edgars Court, Welwyn Garden City, Herts.

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AERONAUTICAL PATENT SPECIFICATIONS

(Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motors. The numbers in brackets are those under which the Specification will be printed and abridged, etc.)

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| 19,940. | W. BRAMBLE AND W. ALLISTON. | Advertising devices for use with aircraft. (333,350.) |
| 24,288. | RHEINISCHE METALLWAAREN-UND MASCHINENFABRIK SÖMMEPPA A.-G., and F. FAUDI. | Brake valve arrangements for braking wheels of aeroplanes by compressed air. (333,393.) |
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